THIS WEEK'S National Petroleum NEWS

Index to Coming Meetings

Independent Oil Men's Association of New England: Fall River, Mass., Aug. 14; Providence, R. I., Sept. 11; Worcester, Mass., Oct. 9.

North American Gasoline Tax Conference, Book-Cadillac Hotel, Detroit, Mich., Aug. 7, 8, and 9.

American Petroleum Institute division of development and production engineering, Texas-Louisiana-Arkansas district, Galvez Hotel, Galveston, Tex., Sept. 5, 6.

American Chemical Society, Petroleum Division, Minneapolis, Minn., beginning Sept. 9.

National Petroleum Association, Hotel Traymore, Atlantic City, N. J., Sept. 18, 19, 20.

Ohio Petroleum Marketers Association, Deshler-Wallick Hotel, Columbus, O., Sept. 18, 19.

Rocky Mountain Oil & Gas Association, Montana division, Calgary, Alta., Sept. 18, 19, 20.

National Safety Council, Petroleum Section, Congress Hotel, Chicago, Sept. 30, to Oct. 5.

International Petroleum Congress, Tulsa, Oct. 5 to 12.

Big Four State Jobbers (Missouri, Kansas, Nebraska and Iowa), Kansas City, Mo., Oct. 15, 16, 17.

Independent Oil Men of America, Stevens Hotel, Chicago, Oct. 21, 22, 23.

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—*Bachrach*

JACOB FRANCE took over the management of the Mid-Continent Petroleum Corp. (then Cosden & Co.) almost exactly five years ago. The company then was almost exclusively engaged in refining and had no dependable outlet for its products.

As a result of the reorganization work directed by Mr. France the company now has an extensive retail distributing system in the Middle West, is an aggressive producer of crude and the largest Independent refiner in the Mid-Continent.

Mr. France was vice president and general counsel of the company from the time of its organization in 1913 until he was elected president on July 17, 1924. He is a native of Baltimore and was a practising attorney there for more than 20 years.

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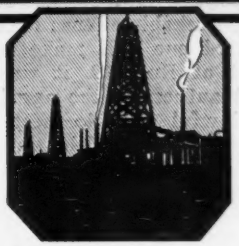

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Code of Marketing Practices Submitted to Oil Companies for Acceptance

By Roger B. Stafford
N. P. N. STAFF WRITER

CLEVELAND, July 24

THE code of practices for the marketing of petroleum products, revised and rearranged by the Federal Trade Commission, is being submitted to our industry as of July 25.

It becomes effective as soon as marketing companies sign an agreement which the commission is submitting, with copies of the code, to hundreds of marketing companies, firms and individuals whose names were supplied the commission by petroleum associations.

Directors of the American Petroleum Institute have been called to meet July 30 in New York to decide what move in regard to the code will be taken next. It is likely that major companies will wait to see what action the A.P.I. directors take before they sign the commission's agreement form.

The agreement which is being submitted to petroleum marketers for their signatures follows:

"In consideration of the abandonment by others in the industry of practices covered by rules adopted in resolution form at the Trade Practice Conference held by the Federal Trade Commission for Petroleum and Petroleum Products Industry, at St. Louis, Mo., Feb. 11, 1929, and for the purpose of placing as near as may be all in the industry on an equally fair competitive basis, the undersigned hereby subscribes to, and the undersigned and such others as now have subscribed or in the future shall subscribe, hereby mutually agree to abide by said rules, copy of which has been received and read by the undersigned."

The agreement contains space for the name of the company, the name and title of the officer signing, address of company, and date.

The code as submitted to the commission by the trade practice conference held in St. Louis last Feb. 11, has been amended in some minor respects, two rules or resolutions as adopted at St. Louis have been eliminated, and the amended rules have been gathered into two groups.

In Group I have been placed seven rules which cover practices that violate existing laws regulating competition and in Group II have been placed 13 rules that are expressions of our industry as opinions of what it believes are unfair practices, and a set of definitions.

Group I rules are enforceable by prosecution of offenders under the Sherman, Clayton or Federal Trade Commission acts and are binding on all marketers whether they sign the code agreement or not.

Group II rules are binding only on those marketers that sign the agreement and, even in the case of signatories, enforcement is admitted to be difficult.

In the case of alleged violations of Group I rules, the commission has the power to summon an offending company or individual before it on not less than 30 days' notice for a hearing. The party complained against shall have the right to show cause why a cease and desist order should not be filed against it.

The commission, if it finds against the alleged offender, may issue a cease and desist order and the alleged offender has the right to appeal to a circuit court of appeals of the United States for a modification or rescinding of the order. Should the court uphold the commission the alleged offender may appeal, upon certiorari, to the Supreme Court of the United States.

On the other hand after a cease and desist order is violated after it has been issued, the commission may apply to the circuit court of appeals in any circuit where the violation has occurred, for enforcement of its order. Affirmation of the commission's finding by the court amounts to an injunction.

IN THE case of Group II rules, which are not backed by any acts of Congress, the commission would not initiate any action, Otis B. Johnson, secretary of the commission, said in Washington. If complaints are made to the commission it would consider the alleged offense and probably conduct an investigation. If investigation revealed the practice to be unfair some sort of effort would be made to stop the practice.

Group II rules are binding mainly as a gentlemen's agreement, and those marketers who do not sign the code cannot be held amenable to Group II

To those who wish to compare the Code of Marketing Practices as issued by the Federal Trade Commission with the code adopted by the trade practice conference in St. Louis, Feb. 11, 1929, the St. Louis code was published in National Petroleum News for Feb. 20, 1929, beginning on page 82.

rules, it was admitted at the commission.

The two rules adopted at St. Louis which the commission threw out, were 12 and 19. Rule 12 would have prevented one refiner, distributor, jobber or wholesaler from giving longer credit terms than a competitor in order to get a dealer's business.

Rule 19 provided for the reporting of alleged violations of the code to the chairman or vice-chairman of a regional committee of the American Petroleum Institute, and the company offended against "may take such lawful steps to meet the competition as may be approved by him (the chairman); but in any event the company offended against shall promptly make and prosecute a suitable complaint to the Federal Trade Commission."

The commission states no reason for striking Rules 12 and 19 from the St. Louis draft but unofficial comment in Washington is that Rule 12 dealt with a method of doing business that is cognizable under the law and that to give the injured person or corporation leave, as under Rule 19, to retaliate in kind, would be to encourage the doing of an unlawful thing by the injured party in retaliation for the wrong done to him. The theory of the law, it was said, is that a person damaged in that way will appeal to the courts for protection instead of trying to apply lynch law.

Rule 19 also undertook to set up, it was unofficially explained, a method or tribunal within the industry for the punishment of violators of the code which method or tribunal was independent of the commission with appeal to the commission made compulsory.

The Federal Trade Commission act, it was pointed out, contemplates that when a punishable offense is committed the injured one will make complaint. The part of Rule 19, it was pointed out, that authorizes the aggrieved one to take lawful steps to meet the competition, carries a false implication. The false implication is that without the approval of an institute official the aggrieved one may not take lawful steps. It is observed that the aggrieved one needs no permit from any one to take lawful steps.

The industry, in its Rule 8, now Rule 8, Group 2, by the inclusion of the word "price cutting or" and "not less than 6 per cent plus taxes," in the estimation of those familiar with the work of the commission, would have committeed the commission to a standard of reasonable return and a regulation of price cutting, two things to which the regulating body felt it could not commit itself in general terms because, if and when questions as to a reasonable return or price cutting come before it for decision, it will have to be governed by the testimony on the controverted points.

Determining now that 6 per cent plus taxes was a reasonable return, without any evidence, it is submitted, is something no quasi-judicial body should do and which no judicial body in the United States will do except when there is a fight between parties arising out of contractual relations.

The commission is issuing this statement with the code as regards the changes in rules and their transfer into two groups:

"Resolution 1, as adopted by the industry, was divided by the commission into Group I and Group II rules, appearing in the rearrangement as Rule 1, Group I, and Rule 8, Group II.

"Resolution 3, as adopted by the industry, was divided into Group I and Group II rules. As re-arranged, these rules appear as Rule 3, Group I, and Rule 10, Group II.

"Resolution 7 (now Rule 14, Group II) was amended by striking out at the close thereof the words, *not less than 6 per cent plus taxes.*

"Resolution 8 (now Rule 2, Group I) was amended by striking out the words, *price cutting or* in the second sentence; and further amended by striking out the words, *not less than 6 per cent plus taxes,* and adding after the word, *improvements,* the following language: *in order that the transaction may not result in rebating.*

"Resolution 9 (now Rule 17, Group II), was amended by striking from the third paragraph, at the close, the words *or lower his cost of doing business, or lessen his investment in his facilities or equipment.*

"Resolution 10 (now Rule 18, Group II), was amended by striking therefrom the last sentence, reading:

When such deliveries are made an allowance for cartage should not exceed one cent per gallon.

"Resolution 12 and 19, as adopted by the industry, were stricken out by the commission.

"The rules as adopted by the industry, and as amended by the commission, have been arranged in two groups. Those appearing in Group I are affirmatively approved by the commission. Those appearing in Group II are received as expressions of the trade."

Group I: Affirmatively Approved and Practices Condemned Regarded as Violative of Law

GROUP I.

Rule 1. (formerly part of Res. 1.)

The practice of loaning or leasing gasoline pumps, tanks, and other equipment is unsound and uneconomic, and should be discontinued at the earliest possible moment, consistent with existing conditions. Until such time as this situation can be brought about, and only in those states in which the practice is now observed, gasoline or kerosene pumps and tanks, motor oil equipment and grease outfits (the grease outfits not exceeding in cost $50 each) may be loaned or leased for the exclusive storage and handling of the products of the lender or lessor, but the borrower or lessee shall not be prohibited from handling in other equipment the products of another supplier. Where no equipment is at present installed by any company, or where additional equipment may be added to existing locations, the borrower or lessee shall be required to pay for the installation of each loaned or leased equipment the actual cost of installing said equipment, and for this purpose shall make a cash deposit of at least $100 in advance for each underground unit to be installed, and shall pay, as or when due, all privilege taxes attaching because of the installation or maintenance of such equipment.

(Note by Commission: That part of this rule which relates to handling, by the borrower of equipment, of the products of a supplier other than those of the lender of the equipment is approved as a Group I rule—the other portions of the rule being treated, independently, as belonging in Group II.)

Rule 2. (formerly Res. 8.)

Refining companies, wholesalers, distributors, and/or jobbers may acquire by bona fide leases or sub-leases, service and filling stations or sites for same, and such stations and/or sites may be leased or licensed by such company to dealers for the purpose of distributing its products. Such stations and/or sites shall not be acquired at one rental and then subleased or licensed at a reduced rental for the purpose of rebating. In the event the company makes improvements to such properties prior to subleasing same, such sub-lease shall provide in addition for reasonable return upon the cost of such improvements, in order that the transaction may not result in rebating.

Rule 3. (formerly part of Res. 3.)

No company shall paint over any sign or colors of another company until it has communicated with the company whose signs or colors are involved, inquiring whether or not the

latter company has any written contract which would be violated by the proposed painting. The latter company shall respond promptly, giving the information requested; and if it holds a contract which would be violated, shall offer to submit it for inspection at its office. If the contract so submitted discloses that the proposed painting would constitute a breach of the contract, the painting shall not be done.

Rule 4. (formerly Res. 14.)

No refiner, distributor, jobber or wholesaler shall knowingly, induce, attempt to induce, or assist a party to break an existing written contract for the sale of petroleum products between that party and another.

Rule 5. (formerly Res. 15.)

All above-ground equipment for refined products shall bear in a conspicuous place the name or trademark of the owner or lessor, and no refiner, distributor, jobber, wholesaler or retailer shall knowingly deliver into such equipment any refined product other than the brand designated, or in any way be a party to the substitution of one grade or brand of refined products for another.

Rule 6. (formerly Res. 17.)

Lotteries, prizes, wheels of fortune, and/or other games of chance shall not be used in connection with the sales of gasoline or motor oils.

Rule 7. (formerly Res. 20.)

The selling of refined petroleum products below cost for the purpose of injuring a competitor, and with the effect of lessening competition, is an unfair trade practice.

Group II: Issued as Expressions of the Trade as to what Constitutes Good Practice

GROUP II.

Rule 8. (formerly part of Res. 1.)

On account of the special nature of service required in supplying petroleum products to airports, no dispensing or storage equipment of any kind shall be leased, loaned, or otherwise furnished, to airport operators or resellers of petroleum products, except at full cost, including cost of equipment and storage installation.

Rule 9. (formerly Res. 2.)

A lender or lessor of equipment shall neither extend credit to the borrower or lessee for installation costs, nor advance money to him to cover payment of privilege taxes, or any other expense in any manner related to the installation of loaned or leased equipment.

It is not the intention of Rule 1 and Rule 9 (formerly Res. 2) to require the payment of installation costs from the borrower or lessee for exchanges and/or substitution in existing equipment on locations where gasoline, kerosene or lubricating oils are being sold upon the date of the Federal Trade Commission's approval of this code. The privilege of exchange or substitution of equipment is declared to extend to all dealers not merely to the original lenders.

Rule 10. (formerly part of Res. 3.)

Except as may be provided in Rule 2 (formerly Res. 8), refiners, wholesalers, distributors and/or jobbers shall not construct for retailers any driveways, canopies, sheds, greasing pits, building or other structures; do painting other than their standard signs or loaned equipment; make improvements to existing structure or facilities; nor furnish or loan air compressors, greasing lifts or racks, or other things of value except equipment stated in Rule 1 hereof, nor bear any part of the expense of construction work on the premises of resellers, nor loan money for the same.

Rule 11. (formerly Res. 4.)

No equipment except trade-marked pump globes and other standard advertising devices shall be loaned to tank car buyers and/or distributors.

Rule 12. (formerly Res. 5.)

Refiners, distributors, jobbers, and/or wholesalers shall not pay rentals or make any allowance for the privilege of installing pumps and tanks, or for displaying advertising on premises where refined products are sold.

Rule 13. (formerly Res. 6.)

Refiners, distributors, jobbers, and/or wholesalers shall not rent from any dealer or consumers any delivery equipment, and shall not purchase from any dealer or consumer any delivery equipment for more than its actual value.

Rule 14. (formerly Res. 7.)

Refining companies, wholesalers, distributors, and/or jobbers may own service and filling stations or sites for same, and may lease such stations and/or sites to dealers for purposes of distributing its products, provided that such leases shall stipulate for a reasonable return to the lessor upon the then fair value of the property for filling station purposes.

Rule 15. (formerly Res. 18.)

Gasoline shall not be sold from tank wagons or trucks to other motor vehicles except in emergency cases.

Rule 16. (formerly Res. 16.)

No oil or other thing of value shall be given away, or special inducement granted, on opening days, special sale days, or other occasions.

Rule 17. (formerly Res. 9.)

All refiners, distributors, jobbers, and wholesalers shall conspicuously post, at each point from which they make delivery, the several posted prices of gasoline and kerosene for each class of delivery for such deliveries at the time of delivery.

Retailers and other operators serving consumers through service stations, garages, curb pumps, or pumps located at bulk plants, shall conspicuously post, at the place from which delivery is made, prices at which gasoline, kerosene, and motor oils are sold.

No seller shall make any deviation from his posted prices (whether wholesale or retail) by means of rebates, allowances, bonuses, concessions, benefits, unusual credits, scrip books, or any plan, device or other scheme which may directly or indirectly permit the buyer to obtain gasoline or kerosene at a lower net cost to him.

Commercial accounts, whether for delivery at service stations or otherwise, may be recognized as an exception to this rule in sections where they are now in vogue, but shall apply only to written contracts for charge accounts.

Rule 18. (formerly Res. 10.)

The practice of making deliveries of gasoline at refineries or wholesale plants into tank wagons or trucks operated by or for the purchasers thereof, is discouraged.

Rule 19. (formerly Res. 11.)

Coupon books or other scrip of any nature, if used, shall be sold and redeemed at their face value without any discount.

Rule 20. (formerly Res. 13.)

On a change in the posted price, no adjustments, allowances, credits or refunds shall be given to any buyer on deliveries already made.

Rule 21. Definitions.

For the purpose of this code, the following definitions are adopted:

(a) **Consumer.** One who destroys the exchangeable value of a commodity by using it. He is an eligible buyer from service station, tank wagon, tank car, or in packages.

(b) **Refiner.** One who refines crude petroleum and natural gas into refined products.

(c) **Jobber, Distributor, or Wholesaler.** One who carries a stock of petroleum products to sell to retail dealers or others for resale, but who may also sell direct to consumers.

(d) **Retail Dealer.** One who carries a stock of petroleum products to sell to the consumers only.

(e) **Commercial Accounts.** Petroleum products sold to persons, firms, or corporations using commercial vehicles in transportation or delivery of passengers, merchandise, freight or express, for use only in such vehicles properly licensed by public authorities for those purposes.

Export Conference Opens in London

By Cable

LONDON, July 22.—Representatives of the Export Petroleum Association of the United States and of the leading European oil companies have opened their conference here about the price of gasoline, but other than the fact that the Burmah Oil Co. has been invited into the meetings nothing definite has come out. The Burmah last year opposed the Standard Oil Co. of New York in a kerosene price war in India.

An important fact that has developed in the European market is that British Independent distributors have now been assured a gasoline supply for some time ahead and that it will be difficult to increase prices here now.

Political aspect of the world market is emphasized by unofficial demands of France that she must be assured a supply of crude oil and that the Irak pipe line construction should be expedited and not delayed.

The pipe line would permit Mesopotamian oil to be conveyed to France, but should it be delayed, France wants crude oil from Persia where exploitation is now solely in British hands.

Sentiment among the delegates to the conference favors higher prices for gasoline, but no decision has been reached, it is known, because they believe the recent offers of supplies have shown the American scheme not to be water tight.

Sinclair is Ordered to Shut In Well

By Telegraph

TULSA, July 23.—Sinclair Oil and Gas Co. was ordered yesterday by the state corporation commission to shut in its No. 1 Kinter well in the Oklahoma City pool. It is given until August 3 to comply with the order. The well has been making more than 60,000,000 feet of gas daily for several weeks and with it 1,700 barrels of high gravity oil.

Hearings were held two weeks ago by the commission on complaints made by other operators in the pool who contended that pressure on the whole field was being reduced. The order was signed by commissioners Hughes and Childers, the latter not having sat in the hearing. Commissioner Capshaw who with Hughes conducted the hearing refused to sign the order.

President R. A. Griffith of the Sinclair Co., said today that the company had not decided what course it would pursue, whether it would carry the case into the courts or not. The company's contention has been all along that it is hazardous to attempt to shut in the well. Originally it lost its surface connections and a steel nipple was set in the casing but it could only be screwed in nine threads.

The company fears that a shut-in would result in building up so high a pressure as to make it unsafe for men to be near the well. The only other method possible would be to mud off the gas, set pipe and deepen to the big pay of the field.

The defendant company objected to this in the hearing on the ground that it has a large investment which is being returned by letting the well produce under back pressure and that it has no assurance of getting anything in the deeper pay.

Gasoline Stocks Cut 1,712,000 Barrels

By Telegraph

NEW YORK, July 23

GASOLINE stocks were reduced 1,712,000 barrels in the week ended July 20 at U. S. refineries with an aggregate capacity of 3,095,200 barrels per day which reported to the American Petroleum Institute. The plants reporting represented 90.9 per cent of the estimated total refining capacity of the country of 3,339,100 barrels.

The largest cut in stocks was reported by refineries on the east coast. In this district 100 per cent of the total capacity reported a cut in stocks of 596,000 barrels. The Arkansas-Louisiana group of refineries reduced stocks 401,000 barrels. All other groups in the country reported small withdrawals from stocks.

The rate of operation during the week was somewhat lower than in the week ended July 13. Reporting plants operated at 85.1 per cent of their rated capacity the past week as compared with 87.3 per cent of capacity the previous week.

Daily average crude charges were 2,584,200 barrels in the week ended July 20 as compared with 2,653,600 barrels per day the previous week, a reduction of 69,400 barrels daily average.

In California crude charges were reduced 588,100 barrels in the week, an average of 84,000 barrels per day. This was greater than that of the country as a whole, other districts reporting some slight increases in their scale of operations. The reporting California plants operated at 91.0 per cent of their rated capacity as compared with 100 per cent the week ended July 13.

Stocks of fuel oil were increased 1,646,000 barrels during the week. Largest increases were made in the Mid-Continent and California.

American Petroleum Institute report of refinery operations in the United States for the week ended July 20, compared with the week ended July 13

	Per Cent of Capacity Reporting	Crude Run to Stills Wk. Ended 7-20 (Barrels)	Crude Run to Stills Wk. Ended 7-13 (Barrels)	Per Cent of Reporting Capacity Operated Wk. Ended 7-20	Per Cent of Reporting Capacity Operated Wk. Ended 7-13	Stocks Reported in Thousands of Barrels: Gasoline Stocks July 20	Gasoline Stocks July 13	Gas & Fuel Oil Stocks July 20	Gas & Fuel Oil Stocks July 13
East Coast	100.0	3,132,800	3,037,600	79.2	76.8	5,120	5,716	10,540	10,613
Appalachian	84.7	631,400	591,200	91.3	84.8	1,062	1,147	1,094	1,072
Ind.-Ill.-Ky	96.1	2,078,800	2,050,600	93.9	91.2	6,230	6,547	3,418	3,341
Okla.-Kan.-Mo	76.3	1,775,000	1,744,300	78.3	82.3	3,625	3,757	4,748	4,065
Texas	87.8	3,814,100	3,778,400	91.5	90.6	4,891	4,942	12,646	12,136
La.-Ark	88.2	1,129,100	1,288,700	72.3	80.0	1,776	2,177	5,556	5,592
Rocky Mt	92.3	495,900	464,100	57.7	54.7	1,794	1,847	649	508
California	94.0	* 5,032,000	5,620,100	91.0	100.0	11,504	11,581	103,274	102,952
Total U. S.	90.9	18,089,100	18,575,000	85.1	87.3	36,002	37,714	141,925	140,279
Texas (Gulf)	99.3	2,969,100	2,973,700	95.1	96.3	4,013	4,118	9,778	9,314
La. (Gulf Coast)	100.0	847,600	901,400	78.1	83.1	1,585	1,917	4,675	4,566

Standard and Other Big Companies Lead in Opposing Tariff, is Claimed

By A. E. Heiss
N. P. N. STAFF WRITER

WASHINGTON, July 22

OPPOSITION to an import tariff on crude oil and its products is coming from the big refining companies of the country, Major W. Scott Heywood, Jennings, La., told members of the Senate Finance Committee July 18.

Major Heywood represented Gov. Huey P. Long, and the independent producers and royalty owners of Louisiana at the committee hearing on the tariff. He was also the representative of Gov. Long at the interstate compact conference in Colorado Springs in June.

He told the Committee that, if the producers were to perish by reason of their being denied a duty on crude, they would demand of the Senate "a full and exhaustive examination and investigation of the policies, practices, records and books of the men, firms, associations, organizations, corporations and super-corporations now dominating and controlling the petroleum industry of America."

This statement by the Louisiana man was made in the presence of Senators Pine and Thomas, of Oklahoma; E. B. Howard, former representative from Oklahoma; H. B. Fell, Ardmore, Okla., representing the Independent Petroleum Association of America; Dan Harris, representing the Producers and Royalty Owners' Association of Texas and H. L. Gandy, executive vice president of the National Coal Association. No one took exception.

Except for the coal men they constituted a committee representing producers appearing in behalf of the bills introduced by Senators Pine and Thomas calling for a duty of $1 a barrel on crude with appropriate duties, amounts not specified, on refined products.

Howard Sees Progress

"We believe we have made progress in this fight," said Mr. Howard, who, though a Democrat, has been leading the movement for a duty. "Regardless of the outcome now, the fight will be continued as long as there is a protective tariff, the producers of crude petroleum are given the recognition that is given the producers of other commodities that are brought into competition with the products of foreign countries."

In view of the fact that a coalition of Democrats and irregular Republicans is in control of the Senate, the threat uttered by Major Heywood was not believed to be without weight. In other words, the members of that coalition, it was pointed out, are ready to play politics and calling for an investigation of the oil industry is recognized as one of the ways in which politics is played.

Among the members of that coalition are so-called progressives from the public land and other western states who have denounced the Hoover policy which has shut off exploration of the public lands for gas and oil. Therefore, it is assumed that, if the producers carry through the policy enunciated by the Louisiana man, the fight for a duty on crude may result in the inauguration of another situation in which the political orators in Washington can show their friendship for the "peepul" by indiscriminate denunciation, regardless of the effect in the actual operating oil industry.

In his address to the committee Mr. Howard was at pains to say that the opposition toward a duty came from the refiners, transporters and distributors of petroleum products. He said he did not blame them for taking the position that their business interests required the keeping of oil on the free list. He said that the large refiners were producers of crude in foreign lands, importing their foreign product through Atlantic ports to such an extent as to cut off crude from the west coast of the United States to those same Atlantic ports.

Production Industry Suffered

The production branch of the industry, Mr. Howard asserted, was and for a number of years has been in a depressed condition, prices having declined 29.4 per cent since 1921, while the refining and distributing part of the industry was prosperous.

"This branch of the industry (refining and distributing) has prospered beyond measure," Mr. Howard said. "This branch, to a very great degree, is controlled by the Standard Oil Co., its associates and subsidiaries. Through profits earned in the field of production, through their transportation lines, their refineries, and through the importation of cheap foreign oil, they have prospered beyond the most vivid imagination."

In support of that he quoted a Wall Street report of May 17 last saying that the profits of the Standard of New Jersey were up to 270 per cent for 1928 and that one reason given for the great increase was "that their foreign production was greater than in 1927 by 10,888,714 barrels, much of the gain coming from subsidiaries' operations in South America and the Dutch East Indies."

Naturally Mr. Howard said, the refining branch of the industry "commonly known as the Standard Oil group, their associates and subsidiaries, for purely business and financial reasons, are the strongest opponents of a tariff on oil."

Standard Group Strong Opponents

Evidence of their opposition, he said, was furnished by a brief filed with the ways and means committee of the House and with the finance committee of the Senate in the name of American producers of petroleum in foreign fields.

The brief in question, filed in the Senate a few days before the hearing accorded to the producers was signed by Hausteca Petroleum Co. (Maine), H. Walker, vice president; Mexican Petroleum Co. (California), L. W. Berhard, secretary; Tamiahua Petroleum Co. (Maine), S. W. Chambers, vice president; Tuxpam Petroleum Co. (Maine), S. W. Chambers, vice president; Chiconcillo Petroleum Co. (Delawere), L. W. Berhard, director; Lago Petroleum Co. (Delaware), J. W. Stewart, president; Lago Oil and Transport Corporation (Delaware), A. N. Penn, vice president; Pan American Petroleum Corporation (Delaware), G. W. Whalen, vice president; and Island Oil and Transport Co., R. Baron, for the receiver.

Practically every one of the companies signing that brief in opposition to the duty, the speaker said, was a subsidiary of the Standard of Indiana.

"A failure to place a tariff on petroleum will be a victory for the Standard Oil Co.—a great benefit to them financially (meaning the parent company and the subsidiaries) and of practically no benefit to any other American citizen," declared Mr. Howard, who said that he was not citing the facts mentioned by him as a reflection on the producers of oil in foreign lands but merely to show what interests were asking for a continuance of a situation that meant greater profits for them.

In the brief filed by Mr. Howard it was asserted that, of nine importers

of Venezuelan oil, seven were subsidiaries of Standard companies and its associates and two were British companies, the Royal Dutch Shell and British Oil Fields, Ltd.

"With these facts before us is it surprising that we are asking an American congress for protection?" asked Mr. Howard. "Of course we note that there is other opposition, but an analysis of their objection shows it is founded strictly upon selfish motives namely, the securing of cheap gasoline or fuel."

Would Not Increase Price of Gasoline

All the speakers, and particularly Senator Pine, Major Heywood and Mr. Howard insisted that a duty of $1 a barrel would not be reflected in any increase in the price of gasoline because domestic competition would force the users of foreign crude, if any, to absorb the tariff duty, as was the fact in many other instances. Mr. Howard pointed out that there was no such thing as a fixed relationship between the prices of crude and refined and that among the highest price group was New York City, right at the door of Bayonne, N. J. where much foreign crude was received. The foreign crude, he pointed out, produced but a small percentage of gasoline—not over two per cent.

Major Heywood insisted that the companies importing the crude controlled the price of domestic crude and refined products.

Senator Pine said that a duty would not stimulate production, but would give the domestic producer a measure of protection against the foreign oil. He said there was no overproduction in the country at present and whatever there appeared to be of overproduction was the result of importation of foreign oil which had depressed the price in the United States. The country could increase its production, he said, if there was an increase in the demand.

There was more need, he asserted, for conserving iron in this country than conserving oil because there was a larger potential supply of oil than of iron. In fact he suggested that it was more likely that the time would come when old washboilers and other iron articles would have to be gathered up to provide this country with ships than that the supply of oil would be below requirements.

Heywood Denounces Opposition

Major Heywood, in denouncing the opposition to a duty and in threatening an investigation by the Senate, said as follows:

"The same identical interests which are actively opposing our request are the ones which not only today dominate and control the American market to the extent of dictating and fixing prices of both the crude petroleum and the refined product, but also own foreign fields, produce foreign crude, employ foreign labor and import such foreign products into the United States in competition in and with the domestic market, dictated, dominated and controlled by themselves.

"American citizens engaged in the necessary and legitimate business of producing petroleum will not voluntarily submit to such un-American competition, but rather extermination and extinction.

"If we are to perish, before we go, we hereby serve notice upon our would be executioners that we will ask and demand, at the hands of the Senate a full and exhaustive examination and investigation of the policies, practices, records and books of the men, firms, associations, organizations, corporations and super-corporations now dominating and controlling the petroleum industry of America."

Advocates of a duty argued that the benefits of a protective tariff should be extended to the producers of crude and that the duty would no more be added, in full, to the price to American consumers than the tariff duty on other articles was added in full to the price of the American goods.

Opponents of the duty argued that foreign oil should be brought in so that American oil could be kept in the ground and the prices of gasoline and fuel oil be kept down. Carroll H. Wegemann, chief geologist, Pan American Petroleum & Transport Co., presented the arguments in behalf of American producers in foreign lands, expressing the opinion that a duty would raise the price of gasoline and other products and stimulate production by exploitation of reserves in the United States.

Would Add to Cost of Fuel to Homes

Walter H. Maguire, of the Petroleum Heat & Power Co., Stamford, Conn., said that a duty would raise the price of fuel oil used in homes and make it harder to sell oil burners. To that argument Mr. Howard retorted that petroleum was too valuable a product to be used for ordinary heating purposes.

John S. Weller, Pittsburgh, of the South Penn Oil Co. and the Penn Mex Fuel Co., said it would be embarassing for Americans to ask for concessions in foreign lands if a duty were imposed on imports of oil. G. H. Pouder, of the Baltimore Association of Commerce; George M. Rammel, industrial commissioner of Savannah, Ga.; Albert R. White, of the Associated Industries of Massachussetts and J. B. Klumpp, of the American Gas Association, opposed removal of petroleum from the free list. The latter said a duty would increase the cost of generating gas used in homes in this country.

Mr. Gandy, the coal association secretary, favored the imposition of a duty on the theory that it would keep some oil out of American ports and enable American coal operators to sell more coal in these ports. That position was also endorsed by George W. Lewis, legislative agent of the United Mine Workers of America.

City's Right to Control Oil Drilling to be Tested

WASHINGTON, July 23.—The Oxford, Kans., question of the power of a municipality to regulate the drilling of oil wells on city lots has been laid on the door step of the Supreme Court of the United States.

The style of the case is C. A. Marrs et al. vs. City of Oxford et al. Marrs and his associates lost in the litigation over the constitutionality of an ordinance of the city of Oxford to regulate drilling on city lots. They ask the highest tribunal in the land to review the decisions of the lower courts. That does not mean that they have appealed, in a law sense. They have no right to require the high court to pass on the questions involved. Their right is merely to assert that the lower courts have so misconstrued the laws of the land that the high court should look into the matter and point out to the lower courts that they have not declared the real law on the subject.

Marrs and his associates own two lots in Oxford. They combined and engaged a driller to sink wells. The city ordinance provides that not more than one well may be drilled in a city block but that owners of land within a block may combine to obtain a permit to drill.

The drillers were arrested time and again, injunctions were sued out and all manner of litigation appropriate to test the matter were sued out, but the courts sustained the city.

Applicants for the writ of review (certiorari) assert that the right to drill is property of which they cannot be constitutionally deprived in accordance with the manner set up in the ordinance. They claim that the ordinance is unconstitutional in that it has no rational relation to the public health, safety, or welfare of the community but on the contrary is an attempt to regulate a legitimate private business. The application also asserts that the ordinance undertakes to make contracts for the owners of the lands and compels them to divide with adjacent owners the oil produced by the applicants.

Geologists Divided as to Connection between Oklahoma City Pays

OKLAHOMA CITY, July 22

WHETHER the so-called detrital zone, producing gas in several wells in the active pool just south of Oklahoma City, is in communication with the deeper Siliceous lime, or big pay zone of the field, is one of the questions which perplexes operators in that field. Geologists are divided in their opinion.

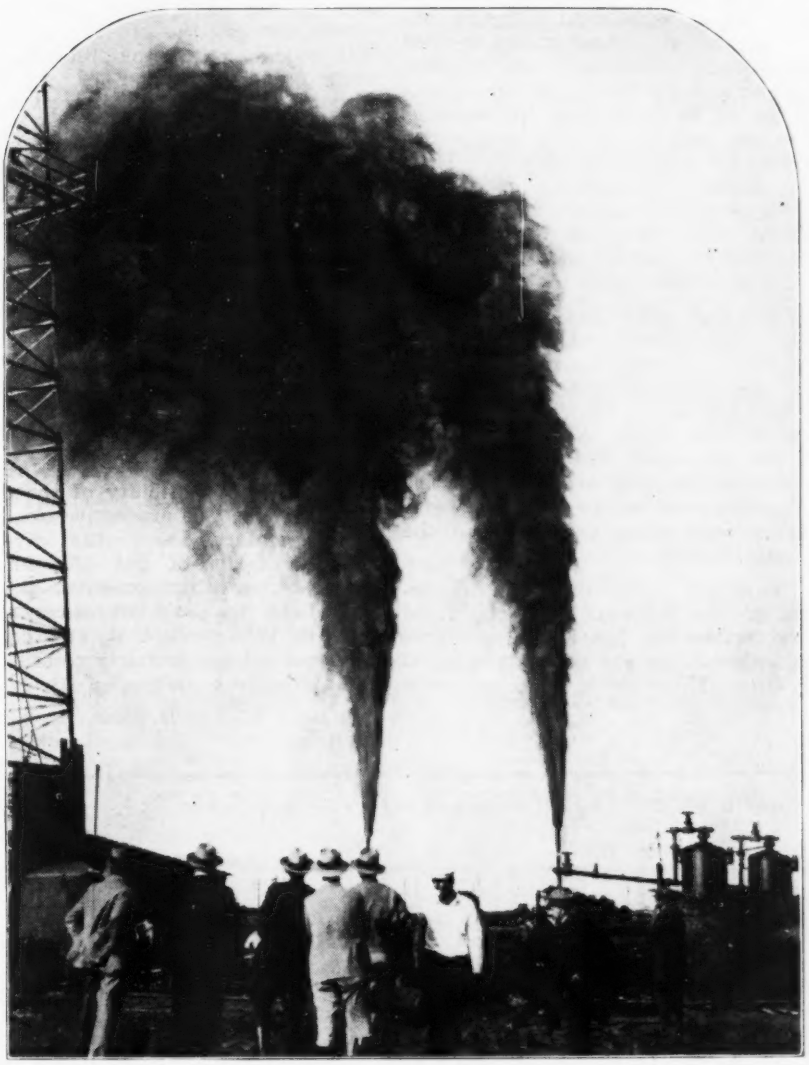
It was one of the much-discussed points in the recent hearing before the state corporation commission, when complaint was made by Conservation Agent Vaughn against the Sinclair Oil & Gas Co. and Amerada Petroleum Corp. The two companies own a well producing from the detrital zone and complaint was on wastage of gas which was coming from the well with some 1700 barrels of 67 gravity oil.

An accompanying plotted section northwest-southeast through the field shows the position of several wells which have reached the detrital zone, so-called because it is supposed to be composed of detritus, or wash, within an eroded zone above the siliceous. The Oklahoma City pool fails to conform stratigraphically to pools farther east in that such sections as the Hunton lime, Sylvan shale, Viola lime and Wilcox sands are absent.

A committee was appointed June 21 by operators to make a study of producing problems and field conditions, with particular reference to the detrital zone. This committee consists of M. J. Kirwin, chief engineer of the Indian Territory Illuminating Oil Co., chairman; Glenn Harroun, field superintendent for the district of the Sinclair Oil & Gas Co.; H. L. Briggs, vice-president and general manager of the Coline Oil Co.; J. S. Sidwell, assistant superintendent of the land department, Prairie Oil & Gas Co., and G. R. Henson, Shell Petroleum Corp.

The main problem before this committee was the determination, as nearly as could be made, of the question whether the detrital zone and siliceous lime are connected. An important economic and operating issue is involved.

If they are connected in such way as to permit the escape of gas from the lower one into the detrital zone, then the escape of gas from the detrital reduces the pressure on the siliceous. This pool also will have important bearing on others which may be developed in the region.



Coline Oil Co.'s No. 1 Olds well, Oklahoma City pool, cleaning itself of mud through two lines leading away from the well, right after it started to make gas

The committee wrote letters to each company in the field asking its opinion on this point. A report, consisting of the replies that were received and of certain observations made on the performance of the well which brought about the hearing, was made up and filed with the corporation commission at the hearing.

The opinion of R. M. Gawthrop, chief geologist of the Prairie Oil & Gas Co., is pertinent as to the geological factors involved. In his reply to the committee Mr. Gawthrop said:

"A study of records of wells drilled in this area to date would indicate that this area has been subjected to a long period of erosion and that all the formations over this structure, from near the base of the Prue sand to and probably including a portion of the Siliceous lime, had either been removed by erosion or the area was a land mass at the time of their deposition. The eroded area or old land surface is now represented by the detrital zone which lies unconformably or irregularly over the upturned edges of all strata that had been deposited between the top of the Siliceous lime and the shales immediately underlying the Prue sand. This detrital zone will, in our opinion, serve

as a connecting medium between the various formations.

"It is not probable that the detrital zone and the pay zone of the Siliceous lime are in direct contact. It is, however, very probable that there are enough cracks, fissures, bedding joints and possible faults, in that portion of the Siliceous lime lying between the detrital zone and the pay horizon of the Siliceous lime to make a connection between the two formations. These cracks, fissures and bedding joints, will have allowed the gas and the more volatile portions of the oil to pass from the Siliceous lime pay into the detrital zone which serves as a reservoir for it. It is also probable that some of the oil and gas which was originally in the eroded beds between the Siliceous lime and the detrital zone has passed into the detrital zone.

"We feel that the shales lying under the Prue sand are the real cap rock or impervious medium covering the Siliceous lime pay. It is probable that the detrital zone will not be continuous over all portions of the structure—that there will be a continuous ring or circle of this formation surrounding the dome, with fingers and lenses extending up the sides.

"It is our belief that the exhaustion of the Siliceous lime oil would very materially lower the pressure and exhaust the gas now in the detrital zone. There would, however, probably be many isolated fingers and lenses in the detrital zone where the gas and any oil that it may contain would be entrapped and lost to production if no wells were allowed to produce from it. Again, it is probable that the detrital zone will carry oil around the sides of this dome and possibly far up on the slopes. If wells drilled to it are not allowed to produce but are closed in and the pressure in this sand allowed to escape through the broken top of the Siliceous lime into the Siliceous pay, then a large portion of the high gravity oil in the detrital zone will be lost to the producers.

"I think that future development will prove the truth of the above statements."

Glenn Grimes, geologist for the Cromwell-Franklin Oil Co., thought the gas in the detrital zone should be conserved. He said:

". . . . I believe it is commonly accepted that any oil contained in the Siliceous or Arbuckle lime has migrated from shales and formations above the lime.

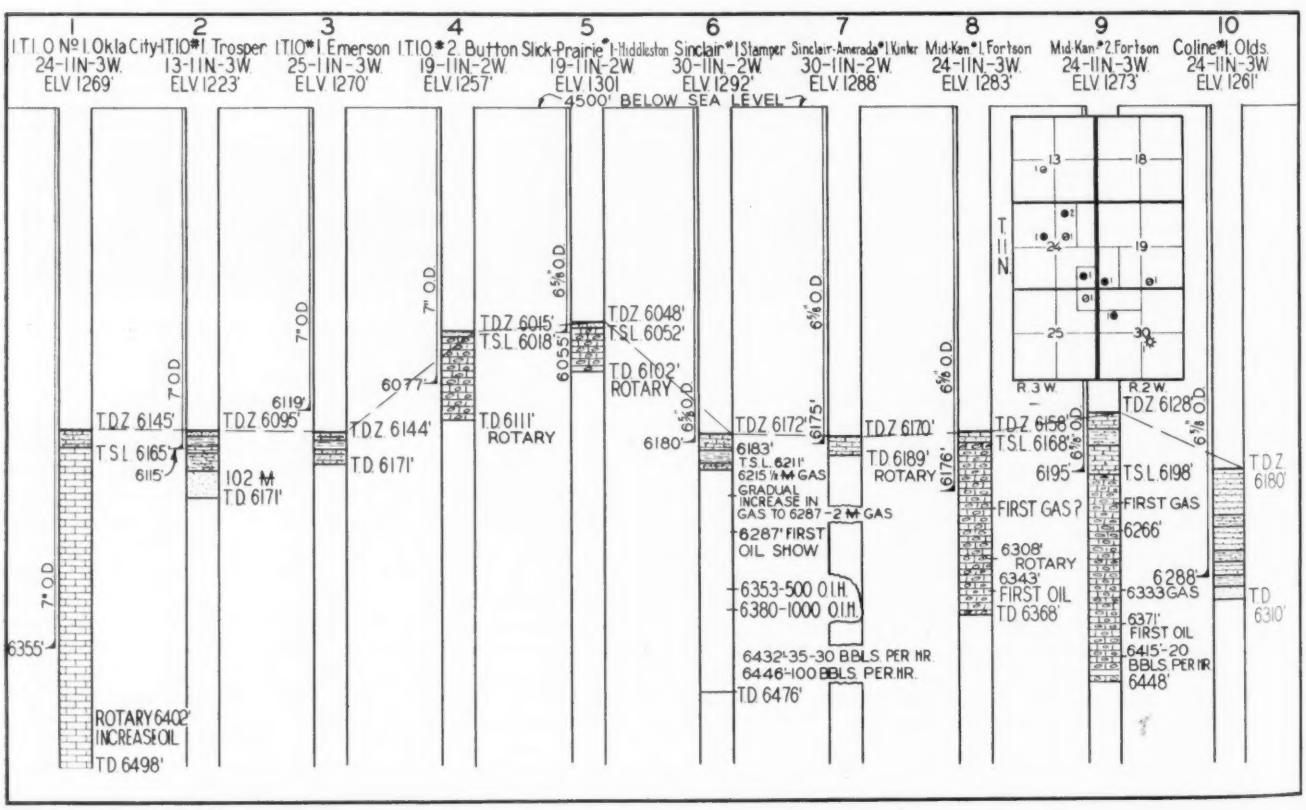
"There is a possibility of the detrital zone and the productive zone being in contact, due to the increased amount of dip of the lime and to its relief, in which case the production of the two could have a connection and, in the event that any contact does not exist it is fairly certain that the deep lime production is derived from oil in the detrital zone, due to fractures and faults in the lime zone. We have had almost continuous shows of oil or gas in every porous phase of the detrital zone, through and well down into the lime zone, and any irregularity in the lime zone could give us a connection of these two zones and it might be reasonable to treat the two zones as irregular zones.

"While with our present few tests in the lime, which are relatively close together, the depth of oil production below the top of the lime has been 200 feet or more and has been fairly uniform, it would not necessarily be unreasonable to expect that somewhere within the productive area of the Oklahoma City structure oil has directly migrated and is in contact with sands in the detrital zone.

"In conclusion I would suggest that the committee conserve the gas pressure in the detrital zone until a later date or until more accurate data can be secured on the zone below the Oswego lime."

C. A. Yoakum, chief geologist of the Sinclair Oil & Gas Co., expressed his doubt that there is communication between the detrital and Siliceous zones. His reasoning was as follows:

"In my opinion the detrital zone in the Oklahoma City pool area consists of material which was the result of erosion on this structure during Mississippian time, which would allow it to consist of material from forma-



Graphic representation of a group of wells in the Oklahoma City pool, whose position in field are shown on small inset map. The abbreviation "T. D. Z." means top detrital zone and "T. S. L." stands for top siliceous lime

tions ranging in age from Siliceous lime to and including the Hunton lime. This detrital zone was deposited from Ordovician to those of Mississippian in successive overlap condition. The detrital zone, therefore, must be a local deposit on and about the flanks of the Oklahoma City pool structure and does not extend beyond the limits of this local area.

"The present data brings out that the highest wells structurally in the Oklahoma City pool have very little, and in some cases none, of this detrital zone, which proves it to be lenticular formation and conducive to the accumulation of oil and gas. The conditions under which this detrital zone was deposited and the material of which it consists would not allow a uniform porosity, which results in the production secured being of a very erratic nature. This, I believe, has been demonstrated by the Sinclair Oil & Gas Co. No. 1 Stamper, NE SW NW of 30-11N-2W, which failed to secure production from the detrital zone.

"In considering the available data, I do not believe the detrital zone to be in connection with the productive part of the Siliceous lime in this area, which is demonstrated by the fact that the Siliceous lime production is found approximately 225 feet below the top of the Siliceous lime and that this section between the detrital zone and the productive part of the Siliceous lime is barren of oil and gas."

E. G. Paschal, engineer for the Coline Oil Co., also doubts the existence of a connection between the two zones. He wrote:

"The interval between the limestone which is found at about 6000 feet and the Siliceous limestone would normally be expected to be from 1500 to 2000 feet thick. In the Oklahoma City field this interval is found to be from 100 to 250 feet thick. From the standpoint of geological periods, from the lower part of the Pennsylvanian to the upper part of the Ordovician and all intervening periods are considered as entirely missing. This interval has been termed the detrital zone.

"As may be implied from the term detrital, this zone is composed of irregularly deposited sandstones and shales. The sandstones are probably very lenticular in character and it is likely that the zone is connected in some way throughout its entire thickness.

"Five wells in the Oklahoma City field have tested this zone. No two of these wells have tested at the same depth into this zone. Three of the wells tested in this zone made gas. One made oil and the other was dry.

"The well Sinclair Stamper, which was a dry hole in the detrital zone, was drilled deeper into the Siliceous lime and made a 2500-barrel oil well with very little gas. The oil was not found until about 220 feet of the Siliceous lime was drilled. The discovery well found oil at from 165 to 210 feet in the lime. The Mid-Kansas Fortson No. 2 found oil at about 220 feet in the lime. None of these wells had any great amount of gas production.

"The upper 200 feet or more of the Siliceous limestone appears to be impervious or else the oil production would be found in the top of it. If the upper 200 feet of this limestone is impervious then it does not seem likely that there would be a connection between the detrital zone and the productive portion of the Siliceous lime through 200 feet of impervious limestone. If there should be a connection between the detrital zone and the productive portion of the lime, one would expect the oil wells in the lime to have a greater volume of gas than any well to date has found."

William W. Clawson, geologist for the Indian Territory Illuminating Oil Co., thinks the two zones are connected. He said:

"Present evidence points to prolonged erosion in the pre-Pennsylvania sediments in this field. Wells which have reached the Siliceous lime indicate rather pronounced relief in this old erosional surface.

"The erosional, or detrital zone, in all probability is in contact at some point with the producing zone in the Siliceous lime either directly because of this relief or indirectly through possible faults, fractures and similar crevices.

"In any event, presence of oil in the detrital zone resolves the matter into a problem of obtaining the correct gas/oil ratio by cementing casing at a proper point to insure shutting off the large volumes of gas which are apt to be encountered in the upper part of the detrital zone."

Analysis and Engler distillation of the oil from the No. 1 Kinter well, in the Oklahoma City pool, which is producing from the detrital zone, filed with the Oklahoma corporation commission, together with the report of the committee of geologists.

Methane	Trace
Ethane	.518
Propane	2.638
Iso Butane	1.861
N. Butane	9.488
Iso Pentane	3.881
N. Pentane	11.457
Hextane and heavier	70.154

Engler Distillation
A.P.I. gravity 71.6

Init.	70
10%	110
20%	139
30%	164
40%	186
50%	212
60%	240
70%	274
80%	330
90%	475
End Point	507

Recovery 92, Residue .9, Loss 7.1%, Color plus 25 sour.

Henderson Building New Gasoline Plant

TULSA, July 20. — Construction work has been started on a natural gasoline plant at Sanford, Tex. by F. C. Henderson, president of The Henderson Co. The plant is not to be a unit of the company. When completed the plant will have a capacity of 25,000,000 cubic feet of gas a day and will produce approximately 25,000 gallons of gasoline daily.

The distillation units will be furnished by the Tulsa Boiler & Machinery Co. The absorbers will be built by the Jackson Engineering Co. Worthington pumps and steam turbines will be used. The gas will be obtained from the Sanford (Panhandle) field.

Southwest Producing Interests Merged

By Telegraph

HOUSTON, July 22.—Announcement is made of the formation of the Cranfill-Reynolds Corp. of Delaware with 1,000,000 shares of no par stock to consolidate a group of producing and refining interests in Texas.

Included are the Cranfill & Reynolds Co., which was previously an incorporated partnership operating in West Texas and New Mexico; Central Texas Refining Co., operating skimming plants at Brownwood, Corsicana and Minerva, Texas; Gulf Coast producing properties of the Moody-Seagraves interests; and the Cody Petroleum Co., operating in Wyoming. Consolidation of the several interests will knit together producing and refining units in various parts of Texas, and other states.

TULSA, July 22.—H. H. Knoch, refinery superintendent for the Crystal Oil Refining Corp., Shreveport, was a visitor in Tulsa recently. Mr. Knoch was en route from Duncan, Okla. to Shreveport. He had been to the plant of the Western Oil Corp. to inspect a new refining process in operation at that plant. Mr. Knoch's former home was in Sapulpa.

Review of Late Production News

STILL higher went production the past week when it reached 2,893,950 barrels, a gain of 2200 barrels over the previous week, according to the American Petroleum Institute.

Crude oil imports were at the rate of 245,714 barrels the week ended July 20, a decline of some 55,000 barrels. Total new crude supply fell off 53,086 barrels, to 3,139,664 barrels the past week, due to the decline in imports.

The largest change in any individual field occurred in Pecos county, West Texas, which gained 4500 barrels, and Sedgwick county, Kan., which gained 3250 barrels. Young county, west central Texas, gained 2550 barrels.

Asher field in Oklahoma gained 2900 barrels. Little River fell off 3350 and St. Louis pool 2850 barrels.

Santa Fe Springs gained but 2000 barrels the past week. Minor changes occurred in other California fields.

Oklahoma-Kansas

THE mounting production in Oklahoma is causing some apprehension, particularly as crude is backing up on some refiners. There is reported to be still a slight withdrawal from storage, but the amount is small enough to be offset by any sudden increase in production, such as might occur in the Oklahoma City pool.

With several completions due in a few days, the Oklahoma City field had reach 23,000 barrels per day at the end of the week.

Southern Oklahoma provided the principal wildcat strike of the week when Wirt Franklin Petroleum Corp.'s test in Stephens county came in for 40 barrels per hour. It is on a large block of acreage and probably will be developed slowly.

The slump in production in the Sasakwa pool, Seminole county and the bad performance of one of the principal producing wells has caused a cessation of the drilling boom that was starting.

Wyoming, Montana

NORTHWESTERN Montana and southeastern New Mexico, the extremes of the Mountain States territories, are holding more interest for operators this summer than other sections, although a great deal of work is under way throughout the region, particularly on government lands which it is necessary to validate in order to maintain permits.

New gas and oil field in northwestern Montana is developed in the Sweetgrass Hills territory, not far from the Canadian line; it is known as Bear's Den. The recent completion of a 1750 barrel well in Lea county, New Mexico, proves that territory to be about to pay for its exploration.

Current production in this country by pools is found on page 97.

Wyoming and Colorado have many wildcat wells drilling, any of which may prove a new field at any time. Proved fields are showing added possibilities, and deep tests will be of interest.

California

ALTHOUGH one estimate of the daily average production from California fields for week ending July 18 indicated that the 900,000 mark had been reached, another based on week ending July 20 estimated that production had fallen off 2,000 barrels from 880,000 barrels estimated by the same source for week ending July 13.

A fair appraisement of the total figure for the past week would probably be in the neighborhood of 890,000 barrels, as natural decline and new completions in the Santa Fe Springs field nearly balanced each other and other fields showed little change from their yield for the previous week.

Active drilling on the part of operators who have the 3rd Clarke zone as an objective may cause some additional oil to be added to the Santa Fe Springs output within the near future. It is generally conceded, however, that the present peak will fall short of the 346,500 high for 1923.

Potential production in California fields is in excess of one million barrels as there is about 120,000 barrels of heavy oil shut-in, most of it in the San Joaquin Valley fields.

Unusual activity among many Independent operators and major oil companies in their search for new oil fields in the Coastal and San Joaquin Valley areas has caused experts to predict that some important discoveries will be made.

Texas, New Mexico, Louisiana

THE third Edwards lime oil field of the Luling fault zone, in central south Texas, became an actuality when The Texas Co. completed its No. 1 Dallas Wilson test in block 9 of the Jacob C. Darst League, Guadalupe county, seven miles southwest of the town of Luling.

The well came in making 40 barrels an hour, seven feet in the Edwards horizon at total depth of 2710 feet. It promises similar magnitude to that attained by the Salt Flat field, northeast of Luling, in Caldwell county, which reached daily average production fluctuating recently around the 50,000 barrels level.

Interest in the Permian salt basin of West Texas and Southeastern New Mexico continued to hinge on developments in the last mentioned division. There, the previously reported No. 1 Sheppard well of The Texas Co., in 6-26S-37E, dropped off to only 67 barrels daily after the nearby Gregory test of the Midwest Refining Co. came in for 70,000,000 cubic feet of gas daily. The Sheppard flowed 1561 barrels, initial maximum. Plans are being made to deepen and recomplete it.

Elsewhere in Texas and in Louisiana the week's operations were of local interest only.

Texas University Fund Exceeds Ten Million

HOUSTON, July 20.—University of Texas oil royalties paid by interests operating on this type of Permian salt basin lands had reached the grand total of $10,795,520, July 1, 1929, it is announced by the land office at Austin. June payments amounted to $161,604. The principal, under provisions of the Texas constitution, becomes a permanent fund that may never be spent. Income from the principal is used to construct buildings for the university and for other approved purposes.

Darst Creek Field, Near Luling, Newest Texas Discovery

By Paul Wagner
N. P. N. STAFF WRITER

HOUSTON, July 20

ANOTHER oil field producing from the Edwards limestone formation in the Luling fault zone of central south Texas was discovered by The Texas Co., July 18, when its No. 1 Dallas Wilson wildcat was completed for 40 barrels of 36 A.P.I. gravity crude an hour at total depth of 2710 feet.

The well, in block 9 of the Jacob C. Darst league, Guadalupe county, is seven miles southwest of the town of Luling and a similar distance south of the west end of original Luling oil development. It is also in an *en echelon* trend, extending northeast-southwest, coastward from the Luling field. The Salt Flat development northeast of Luling, in Caldwell county, is upwards of 11 miles away in the same trend.

Discovery of the new field was indicated earlier in July, when the Wilson test picked up a show of oil in the Austin chalk formation at 2240-2248 feet[1], approximately 400 feet higher than wildcat failures drilled from one to two miles away. The Wilson test topped the chalk marker formation at 1719 feet, surface elevation 521 feet. Drilling was then continued to the Edwards formation, which was considered almost certain to produce.

The Darst Creek field, as the new producing area will be known, promises to take rank with the earlier Luling and Salt Flat developments. Both reached daily average production fluctuating around the 50,000 barrels mark at their peaks. Salt Flat is now producing just under that level daily and Luling yields approximately 11,850 barrels daily.

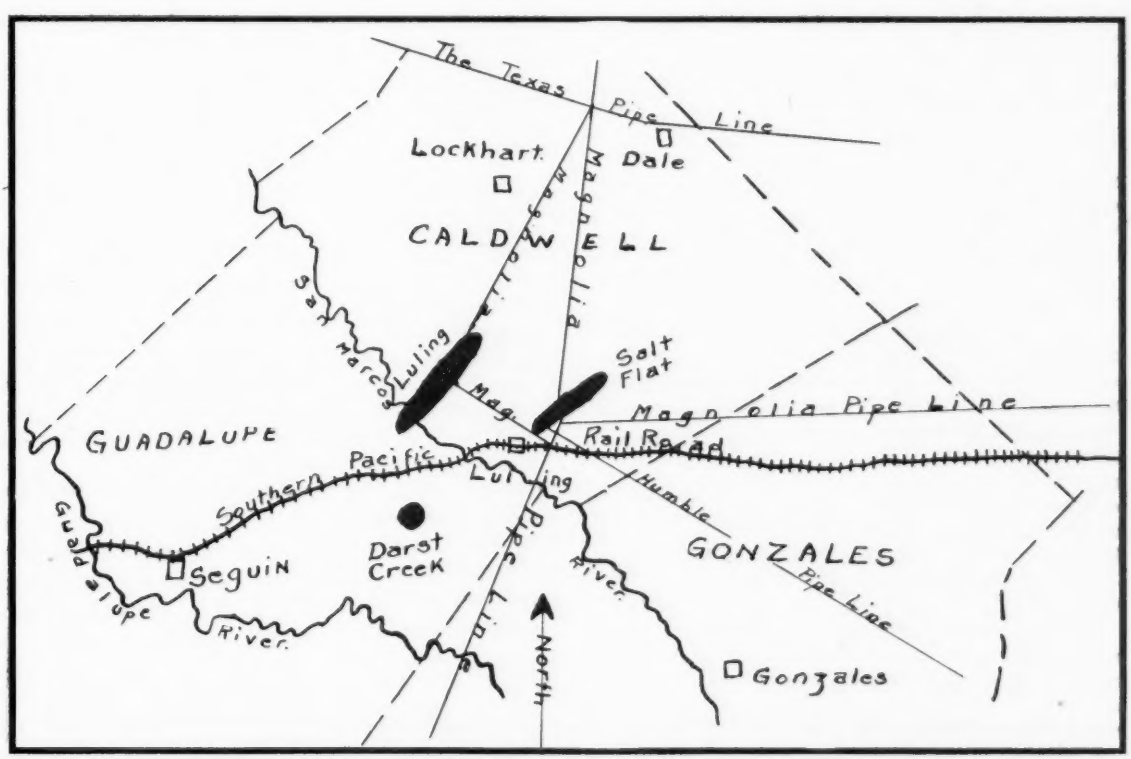
Luling was discovered in 1922 by the United North & South Oil Co., whose properties were afterwards sold to the Magnolia Petroleum Co. Up to Jan. 1, 1929, Luling had given up cumulative production of 42,932,050 barrels. Its ultimate yield, based on the projection of decline curves into the future, will exceed 55,000,000 barrels.

Salt Flat, where Edwards lime production was discovered by the Sun Oil Co., in October, 1928, was competitively drilled in the southwest half of the development area, accounting for the high mark of daily averages attained there. The northeast half of the field is closely controlled by Humble Oil & Refining Co., Shell Petroleum Corp., and Gulf Production Co., the Humble's leaseholds predominating.

Although originally estimated to be good for smaller ultimate recovery than the original Luling field the Salt Flat area is now considered possibly to have similar potentialities in terms of final recoveries.

The new Darst Creek field gives similar promise to the Salt Flat area when further developed. About 90 per cent of the acreage in the area considered probably to be productive is controlled by The Texas Co., and the Humble Oil & Refining Co. The other 10 per cent is held by various interests, including the Gulf Production Co., and the Sun Oil Co. The

[1]NATIONAL PETROLEUM NEWS, page 38, July 10, 1929.



Sketch map, showing relation of new Darst Creek field, Guadalupe county, Texas, to earlier Caldwell county developments in the Salt Flat and Luling fields. All three areas produce from the Edwards limestone formation in the Luling fault zone

Texas Co.'s leaseholds total about 1500 acres.

Pipelines serving the general area are those of the Magnolia Petroleum Co., the Humble Pipeline Co., and The Texas Pipeline Co. The Magnolia system extends via the Luling territory from the Laredo district to Beaumont and has been in operation several years. The Texas Pipeline Co.'s West Texas-to-the-Gulf trunk system extends through northern Caldwell county, permitting construction of less than 25 miles of lateral to provide an outlet for Darst Creek crude.

The cost of drilling wells to the Edwards horizon in the Luling district and equipping them to pump seldom exceeds $15,000, figuring depth of the hole at 2700 feet. This expense was proportionately smaller in the original Luling field, where the pay was reached at depths between 2200 and 2300 feet.

Development is carried forward with rotary tools and usually steam power. Oil is generally used for fuel. Digging is easy and competitively drilled wells can be put down in two to three weeks when speed is regarded necessary.

Footage costs for contract drilling, using Salt Flat as a criterion, approximate $3 a foot. Oil companies furnish fuel and water under such contracts.

Usual practice at Salt Flat has been to set 60 feet of 10-inch surface casing, below which 6⅝-inch, 24 pounds seamless extends to the base of the Georgetown lime, just above the top of the Edwards formation. Some companies, however, set 8¼-inch casing on top of the Austin chalk and then a 6⅝-inch string to the top of the lime.

Sinclair One-Stop Group Will Cover 2 Acres in Cleveland

CLEVELAND, July 23

SINCLAIR AUTOMOBILE SERVICE CORP., a subsidiary of the Sinclair Refining Co. organized to build and operate one-stop service stations, has leased approximately two acres in uptown Cleveland for the first of about 100 stations to be built in Sinclair territory.

The Cleveland service group, according to preliminary estimates, will cost between $125,000 to $150,000 and will contain two gasoline and oil service stations with lifts—one on Euclid avenue and the other on Carnegie avenue—a Gillespie automobile laundry, complete lubrication station independent of the lifts, tire store with repair shop, battery store with repair and charging shop, body and fender works, brake testing and relining department, probably with a wheel aligning service, and storerooms for other concessions.

Sinclair will not operate the tire and battery departments but will handle all other services mentioned, it was announced. Between 70 and 80 persons will be on Sinclair's payroll at this plant.

The land acquired fronts 113 feet on Euclid avenue and is 548 feet deep. This tract backs to three tracts which front 133 feet on Carnegie avenue. These three are 230 feet deep, making a total depth of 778 feet.

Euclid and Carnegie avenues are the main thoroughfares from downtown Cleveland to east side and suburban residential districts. Euclid is a general thoroughfare and Carnegie is a six-lane automobile highway.

Sinclair will pay $164,400 rent for the 113 x 548-foot Euclid avenue parcel and a 94 x 230-foot Carnegie parcel over the next 15 years and has an option to buy it at about $300,000. For the remaining 40 x 230-foot Carnegie parcel it will pay $1680 a year the first five years, $1800 a year the second five years, and $1920 a year the third five years, a total of $27,000 for the 15 years and a grand total of $191,600 for the entire tract. This is an average annual rental of $12,760.

Export Inquiry in N. Texas

TULSA, July 23

INQUIRY from a French buyer for a full cargo of 64-66, 375 end point gasoline was being circulated through the north Texas market July 22. Unconfirmed report had it that 7.75 cents was being bid for approximately 50,000 barrels of the one grade of gasoline.

The practice of foreign buyers going to the Mid-Continent direct for their requirements this season has been discouraged to a great extent by the relatively low prices posted by members of the Export Petroleum Association at the Gulf.

Mid-Continent prices are now off to the point where gasoline can be laid down at the Gulf approximately 0.75 cent under the Gulf posted market.

Crude Purchasers Less Active

By Telegraph

HOUSTON, July 23.—Weakening influences were again at work on the crude oil market when production figures for the week ended July 13 became available. Indicated daily average production for the domestic industry had exceeded 2,915,000 barrels and California yields were above the 900,000 barrels daily level. Both represent new record levels that promise to be exceeded materially in the next two or three weeks.

Crude purchasing agencies in the Mid-Continent and southwest are slowing their activities. In Gray County of the Texas Panhandle, the Prairie Pipeline is making no more connections. Magnolia Petroleum Co., is operating generally on balance of oil daily in some districts while buying in others, thereby avoiding storage accumulations.

Operation of two new West Texas trunk pipeline systems has served to bring withdrawals of crude from storage in the Permian salt basin geological province. There the crude reserve continues to be greatly in excess of industrial needs but individual companies are short of oil for line requirements of new transportation systems. The Texas Pipe Line Co. which is now running 38,000 barrels daily through its new system is moving a considerable quantity of oil from the Luling district of central south Texas. The Shell Pipeline Corp.'s system is now running about 34,000 barrels daily to Houston.

Completion of the discovery well in the new Darst Creek field near Luling is believed to forecast another 50,000 barrels daily production field within the next 90 days.

Oil Man Sought for Forgery

DUBUQUE, Ia., July 22.—A letter from the office of the sheriff of Dubuque county has reached NATIONAL PETROLEUM NEWS, warning against the employment of one Richard Groves, formerly employed as an expert pump and maintenance man by the Rainbow Oil Co., Dubuque. Sheriff F. J. Kennedy holds a forgery warrant against Groves, he having forged a number of checks on the Rainbow company, according to the sheriff.

Groves' description is, according to Sheriff Kennedy: Height, 5 feet, 6 inches; weight, about 145 pounds; eyes, grey; hair, sandy and curly; complexion, ruddy; age, about 30 years.

Shut In Agreement on Kettleman Hills Is Believed Reached

By Jack N. Westsmith
N. P. N. STAFF WRITER

LOS ANGELES, July 20 THE Kettleman Hills oil and gas conservation committee ironed out difficulties between interested operators July 19, and an agreement was reached to shut in future production from this area until July 1, 1931.

Representatives of Kettleman Hills Corp. did not agree to the committee report presented to operators at the previous meeting held on July 17. The report, with a few amendments, was therefore referred back to the committee for adjustment between the conflicting parties.

Although the meeting of July 17 did not go on record as accepting the committee's report, it was generally understood that an agreement satisfactory to both operators and the government was not far off. As the Kettleman Hills Corp. was the only dissenting voice, operators saw light ahead for a tentative agreement.

Several objections were raised to the agreement as presented at the general meeting on July 17, but only one objection was carried to the point where it prevented adoption of the report then. This obstacle was encountered in the section of the report dealing with the shut-in policy to be followed by the wells now nearing completion on the North Dome.

This first part of the section provides that three offset wells to the Milham discovery well, namely, Marland Oil Co. No. 12-8, and the Standard Oil Co.'s wells 1P-8 and 11P-81, should be completed and placed on production in the same zone from which the Milham Elliott No. 1 is producing. The pressure of these wells after being placed on production was to be recorded daily to determine if the pressure of the Milham well was being affected.

The stumbling block to the acceptance of the report arose from the following part of the section: "If at any time after these wells are placed on production, the pressure on the Milham well has been reduced so that it can be killed without hazard to life and property, an effort will be made to shut the well in. If this is successfully accomplished, the three offset wells will also be shut in.

"However, if the pressure is not materially reduced within 60 days after the offset wells have been placed on production, and if any of these offset wells elect to continue to produce, then the owners of the four wells mentioned shall contribute 10 per cent of the sale value of the oil production of their wells to be distributed monthly by one of the four companies (which one, to be later determined) to the owners of all wells in the North Dome area that have been completed, as later defined in the report."

According to the report, a well is to be considered completed when the water has been shut off above the Temblor sand and the discovery has been made to the satisfaction of the federal authorities and the state oil and gas supervisor.

Representatives of the Kettleman Hills Corp., which owns 1760 acres in the Kettleman Hills, objected to that section of the agreement that permitted the offset wells to continue to produce if it was found that their completion did not alleviate the conditions in the Milham well.

Ellsworth McGowan, a member of the committee that drew up the report and an official of the Kettleman Hills Corp., stated that his company did not feel that the depletion of gas caused by allowing the completed offset wells to produce unrestrained for a period of two years could be counted in dollars and cents.

He also stated that his company would agree to a plan whereby the offset wells should be allowed to produce unrestrained for a period of 90 days from the date of completion, after which, if it was found impossible to shut in the Milham well, these offset wells should be shut in for the remainder of the two-year period.

It was because of Mr. McGowan's opposition to this part of the report, the meeting referred it together with some minor amendments, back to the committee for adjustment on July 17.

The committee's amendment to the report, to which all interested operators are said to have verbally agreed, provides that, if the pressure of the Milham well is not materially reduced within 60 days after at least two offset wells have been placed on production, and if any of these offset wells elect to continue to produce, then the owners of the three wells mentioned shall contribute 10 per cent of the sale value of the oil production from their wells for a period of 30 days immediately following the first 60 days before mentioned.

This percentage is to be distributed at the end of the 30 days by one of the producing companies to the owners of all wells in the North Dome area that are completed, on a basis of an equal portion to each of the completed wells, exclusive of the Milham No. 1 and the three offset wells.

Further change in the original plan states that, if any of these wells continue to produce for a period longer than the above mentioned 90 days, the owners shall distribute a percentage of their oil production in the same manner and upon the same basis as provided for the first 30-day period. This percentage is to be not less than 10 per cent of the sale value of the oil production, and not more than 25 per cent. The percentage is to be determined by a committee of four petroleum engineers, directly interested in the North Dome of Kettleman Hills. In the event that the engineering committee is not unanimous in its determination of monthly percentage factors, the Secretary of the Interior shall appoint an umpire to review the data and the decision of the committee, and to decide upon a percentage to be used.

The agreement states that drilling activities under the various permits shall be suspended until July 1, 1931, except as follows:

First: Under the Armstrong permit any one of the four wells, Shell No. 1, Getty No. 4-1 and No. 6-1, and Standard No. 81 (10-P), may be continued to discovery to the satisfaction of the Secretary of the Interior, and the others may be continued to the top of the oil sand.

Second: Under the Beal permit, Pacific Western No. 27 may be continued to discovery, and the Milham No. 1 may be continued to the top of the oil sand, or vice versa.

Third: Milham-Kennedy No. 1, under the Crum permit, may be continued to discovery.

Fourth: Bolsa Chica No. 1, under the Ferguson permit, may be continued to discovery.

Fifth: Under the Watson permit, the Associated No. 1 may be continued to discovery.

Sixth: Under the Elliott permit, Marland No. 2-13 may be continued to the oil sand, Marland No. 12-8 may be continued to completion; and Milham No. 2 may be continued to the oil sand.

Seventh: Under Ochsner permit,

General Petroleum Corp. wells in Sections 26 and 20 may be continued to completion.

In addition to the wells above selected for continued development, certain wells for which applications to drill have been denied by the government are to be commenced prior to the end of the suspension period, and drilling of the necessary offsets may be concurrently commenced.

The Elliott, Ochsner, and Armstrong discovery wells completed prior to the effective date of this agreement may be returned to production immediately upon the expiration of such suspension period.

Except for the Ohio Oil Co.'s well on the South Dome, which will be allowed to complete to discovery in order to validate a permit, drilling has ceased on both the South and Middle Domes.

Signatures of the operators have not been obtained as yet to the plan for the North Dome. Representatives of the Milham Exploration Co., while apparently in an agreement with the amended plans of the committee, stated that they would have to take the matter up with their board. Whether this agreement will be made actually oil-tight only time can tell.

Discuss Clean Out Methods In Tonkawa Field

By John Power
N. P. N. STAFF WRITER

TONKAWA, July 22

CLEANING out old producers, so far as the Tonkawa field is concerned, has hardly been worth the trouble, let alone the expense. That was the majority opinion of the 30 or so superintendents gathered at the regular monthly meeting of the Tonkawa field chapter of the American Petroleum Institute Division of Development and Production Engineering, held in Tonkawa the evening of July 17.

In but few instances has cleaning out resulted in an increased production which held up long enough to pay for the cleaning out job. Many wells failed to show any increase in daily production, while other examples were mentioned in which there had been an actual loss in the daily output from the wells after thay had been cleaned out.

There has not been a reduction in pulling jobs, with their resultant down time and lost production, sufficient to make the cleaning out of wells in any of the three sands productive in the Tonkawa area appear as a paying proposition.

The repressuring project now under way in the Tonkawa field has made it difficult to check the results obtained by the cleaning out process. Most of the superintendents whose wells had been helped were inclined to believe that the repressuring had had more to do with it than the cleaning out. The general experience of the men present was that the wells in the field were but little inclined to cave anyway, most of them being within five or six feet of bottom when the tools were first run in at the start of the cleaning out jobs.

The standard method of cleaning out in the field is about the same as that followed elsewhere. When the tubing has been pulled, the hole is first measured up, and the depth checked against the log of the well recorded when the hole was drilled. In this connection, much trouble has been experienced with inaccurate logs, particularly in trying to locate cavey shale or slate breaks in the sand.

After the hole has been measured, and the amount of cavings determined, a sand pump with a chisel bottom is used to remove the cavings. If necessary, the tools are run, sometimes with the jars on bottom, but in general, the sand pump is enough to get out the cavings.

Water is then dumped from the top, and the bailer run to churn it up thoroughly. The hole is then bailed until no more mud can be brought to the surface. In wells which are shot during the cleaning out, about one quart per foot of sand is used.

In an effort to shut off bottom water some of the wells have been cemented back after they have been cleaned out, but here again, inaccurate logs have added another hazard to the work. Some wells have been cemented back too far, and part, or all of the oil shut off.

Three wells have been experimented with by using the air cleaning method, which calls for the introduction of compressed air into the wells at pressure high enough to blow the accumulated sand and cavings up and out of the hole. In this field, although the sand came out of the hole, the oil was driven so far back into the sand that the experiments were not deemed successful. None of the wells had been making enough oil to make their loss of consequence, however.

One of the greatest problems of operation in the field is caused by the corrosion due to the salt deposited in the tubing by the water produced with the oil. Most of the wells are producing several times as much water as oil, a situation which also has its problems, as a great deal of fluid must be handled out of which but a small part returns any income.

One of the most successful measures for the removal of salt deposits has been found to be the introduction of fresh water down the hole, which when allowed to stand a few hours, dissolves the salt. A tubing swab is then run and the dissolved salt removed.

Paraffin accumulation is another thing which occurs to complicate the producing problems of the field. Of late, experiments have been made with chemicals which are put down the annular space between the tubing and casing and pumped out with the oil. These chemicals, products of the Tretolite Co., manufacturers of oil treating chemicals, are designed to bring the paraffin into solution, so that it can be pumped from the well without recourse to the laborious and expensive pulling job. A drum of the chemical is kept on the rig floor, and some is poured through the casinghead when necessary. The experiment has been considered successful in most cases.

In wells which are making little if any water, and but a small amount of oil, the sand is often given to caving. As a possible solution to this problem, E. H. Griswold, production engineer with the Continental Oil Co., and advisor to the chapter, suggested that part of the fluid produced be returned to the sand, to be pumped over and over again. By maintaining a high enough fluid level to keep the face of the sand well covered, it was thought that the tendency to cave might be reduced.

To keep an artificial fluid level maintained after it had been built up would not actually take any of the daily production, as the same oil, or rather the same amount of oil could be reintroduced into the well. To accomplish this a small reservoir could be set up on the derrick floor, with a line from the lead line running to it with a gate which could be cracked to the desired size.

A small line from the reservoir to the casinghead would be all the other equipment needed for the reintroduction of the oil. It was pointed out that it would cost no more to pump 40 barrels daily than it would four barrels, while the higher fluid level would possibly have a tendency to resist the cavey action of the sand.

"Treating oil" was selected as the subject for the next meeting, scheduled for the evening of August 21.

New Association Goes Forward in Fight for Tariff in Tulsa Rally

By Lawrence E. Smith
N. P. N. STAFF WRITER

THE Independent Petroleum Association of America, which came into existence at Colorado Springs, June 12, now has a membership of nearly 500. So said officers on July 17 at a meeting held in Tulsa.

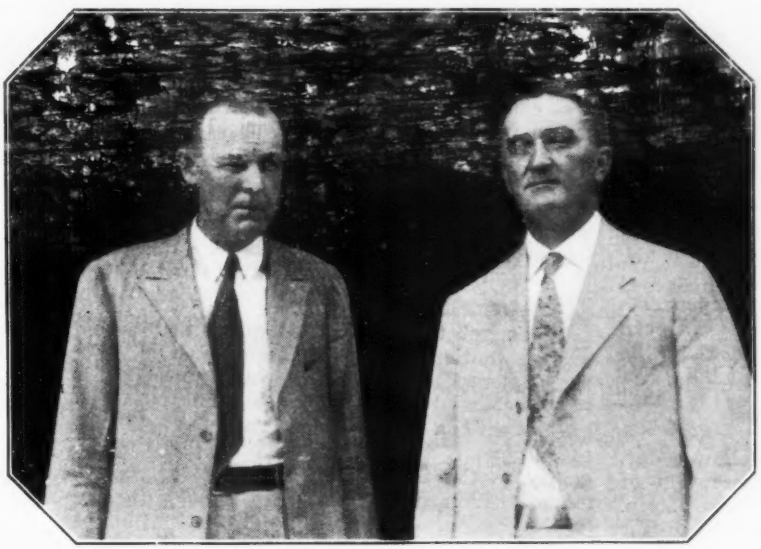
The purpose of the meeting was the promotion of the new association, whose two chief objects are the securing of a tariff on oil and the modification of the famous executive Order 338, which stops exploration on public lands.

About 50 independent producers and executives of complete companies which classify as independent were present at the meeting. The Wilcox Oil & Gas Co. was host at a luncheon and George A. Dye, vice-president of the Wilcox, acted as chairman. Slips were passed around and those present were asked to write thereon the amount of invested capital they represented. The total was $134,050,000. A call for membership pledges was made and Mr. Dye started it off by saying his company would take 40. A total of 63 were secured at this meeting. Many of those present said they would have to consult associates before signing up, but were certain to take one or more.

Fred E. Tucker, oil producer, of Ardmore, recently was "drafted" to be general secretary. Wirt Franklin is president. William R. Kavanaugh, of Ardmore, is handling the membership work. Offices are in the Simpson building at Ardmore. Mr. Tucker told the meeting that the annual income now exceeds $10,000 but that to carry out the work for which the association was organized, at least ten times that much is necessary.

Meetings similar to this have been held in other cities, notably Fort Worth and Oklahoma City, with gratifying results, Mr. Franklin says. It is planned to conduct a number more this summer, covering many of the oil producing states.

Mr. Franklin gave the association his interpretation of the Colorado Springs meeting, held in June, at which he was a delegate from the Southern Oklahoma Oil & Gas Association and made an address. He said he found out at that meeting the meaning of the "propaganda" that has been indulged in for the past four years.



Left, Fred E. Tucker, secretary, and Wirt Franklin, president, of the Independent Petroleum Association of America. (N. P. N. Staff Photo)

"I believe that the people behind this so-called conservation campaign have convinced the Federal Oil Conservation Board that our oil reserves are nearing exhaustion," he said. "That is a false proposition. There is more oil today—in sight—than ever before and in nearly every one of our fields we are finding yet deeper sands. We have oil enough to last a hundred years—our great-grandchildren will not see their time endangered from a shortage of oil. Yet, as I say, the federal board apparently is convinced that this danger is a real one and now that the president and his board believe it, the attempt is being made, through such machinery as the proposed interstate compact, to lock up our resources here at home, just as has already been done on the public lands, until those who import foreign oil have used up their reserves outside this country.

"The first step in a conservation policy is a protective tariff. The tariff is a settled policy of our government; why extend it to everything else and deny it to us. Why not save the American markets for the American producers? Everything we buy is protected and the pattern of our industrial life is founded upon a protective tariff.

"We must educate the consuming public to see this truth: That imports of oil have not caused any falling of the price at the filling station. The public has not been benefited as to price of gasoline and lubricating oils. The burden has fallen on fuel oil, the low prices on fuel oil have reflected back on the coal industry and 16,000 men in the mines were thrown out of work in 1928."

The opposition to the tariff campaign is, for the greater part, being conducted secretly, Mr. Franklin charged. One of the outspoken opponents is the woollen mills association which filed a brief against the tariff on the grounds that it needs cheap fuel oil for its mills.

"We do not want to discontinue cooperative work," said Mr. Franklin. "We want to keep on working together, devising ways of producing oil and drilling our fields in the best possible manner. But our first step in conservation is the protection of our business from cheap foreign oil and we should drop everything else until that result is attained."

He then referred to a letter sent early in July by Mark L. Requa, who presided at the Colorado Springs meeting, soliciting editorial support on his interstate compact plan. Mr. Requa, said Mr. Franklin, rests his conservation plans on the basis of patriotism.

"For what are we to save our oil?" Mr. Franklin asked. "Is it to prepare for some national defense emergency 50 years hence? The best answer to the propaganda that we should conserve our oil—withhold it from use—was made by Former Governor B. B. Brooks, of Wyoming, at

Colorado Springs. He participated in a conservation congress 25 years ago to plan ways of holding back on use of timber and coal. He told of his investment in both commodities, of how he still owns them and, so far as he can see, will never be able to find users of them. No, this theory of non-use of our reserves is kept alive by the people who want to use their foreign reserves first. If that theory prevails by one method or another, the independents will be starved out."

Mr. Franklin said the new association would go forward until it wins its victories on the tariff and the public lands questions. If it can win this year, so much the better, but it should keep at the job until it is finished, no matter how long it takes.

"In numbers, we can command more influence than the Standard companies," he said. "We want to get the solid support, and membership in this association, of all the independents in the 19 producing states. We can in that way gain the support of 38 senators and a large number of representatives and a bloc of that size can win any fight."

Pat Malloy, of Tulsa, followed Mr. Franklin and gave his conception of the purposes of the new association. He said there was a real place for it now.

"When the American Petroleum Institute was formed years ago, I said that it would live, if it did live, by giving full representation to all the industry. That, it is not now doing. As now constituted—I am talking of the present, and with full appreciation of the excellent work it has done in other years along several lines—it is responsive to a certain element in the industry. It is natural that it should listen more attentively to that element. That is where the check for the rent comes from. We cannot expect that it will be of any help on the tariff campaign. The Mid-Continent Oil & Gas Association has come to be a kind of subsidiary organization to the American Petroleum Institute and the Western Petroleum Refiners Association has lost the independent voice it once had.

"We need an association that will give us just as efficient a presentation of the statistics of the industry as anyone can give. It must be a vital body, correctly, interpreting and disseminating to the industry and to the public the truth. We need a man who can draw just as good curves as anyone else can and who can paint the picture of the future as unerringly as Mr. Requa does in his way. This is a day of economics. No longer does it suffice to cry 'Standard Oil' to the public. We must deal in facts and if we could get a man like the late Bob Welch, I should say, let's get him.

"Now, there isn't a chance in the world that Mr. Requa's interstate compact will ever come to anything. That idea died a terrible death right in Colorado Springs. The chief accomplishment in that meeting was the centering of attention on the international situation and the fact that foreign oil is being brought to our markets at a price that is ruinous to us.

"It is not a question of preparing for war in this business. It is solely an economic question. We are selling our products too cheaply. Just look what we give up to the government. Right here in Oklahoma every gallon of gasoline yields four cents to the state. On top of that we pay three per cent of the gross value of our oil to the state. Oil builds the highways and pays a big part of the state's running expenses. It is the same in other states. Yet we are asked to give up our business, save our property, so that producers of oil in foreign fields can have it all their way.

"Let's get this association going in a big, national way. There have been plenty of wires working to Washington but you Independents haven't had a connection. The way to get one is to work just as intelligently as the fellow who is opposing the protection of our American industry."

P. G. Walker, of Tulsa, wanted to know why the Mid-Continent Oil & Gas Association was not supporting the independents in the tariff campaign. He said he was a member of that organization and he believed that a majority of the membership favors a tariff. Mr. Franklin replied that he has been a vice-president of the Mid-Continent ever since it was organized, that he has given of his time whenever called, but that he had been unable to get a reply to his request that a meeting be called to discuss the tariff issue.

"We can't expect any action there," he said. "I am keeping by membership in the Mid-Continent but the reason I consented to head the Independent Petroleum Association of America was my conviction that a new group was necessary."

A resolution was unaminously adopted asking Governor Holloway, of Oklahoma, to call an oil conference to be held in Washington. It was suggested that he appoint five representatives, who would be independent producers and royalty owners, and that the governor request governors of other oil producing states to take like action. This was a renewal of the request made of the governor three weeks earlier, when a delegation called upon him. He has, at this writing, taken no action.

The resolution concluded: "As men who have seen the development of this wonderful natural resource in its every ramification, we make the prediction that, unless the independent producer is given protection, a few more years will see him forced out of business. The only protection we ask is from the half billion barrels of oil being produced annually abroad and which oil is held as a club to force American conservation, which in fact means stagnation of our business. We ask you to look into the future and answer the question, what would the American consumer of gasoline, lubricating oil and other by-products of crude pay for such products if the independent producer and refiner were forced out of business?

"We realize that America is in a drunken orgy of giant business consolidations, and we cannot but admire the keen foresight of those who select this epochal time to accomplish the ends which they seek."

Superintendent W. D. Rial Quits Pan Am. Refinery

WILMINGTON, Cal., July 18.—W. D. Rial, superintendent of the Wilmington refinery of the Pan American Petroleum Co., formerly owned by the Doheny interests, and more recently under the management of the Richfield Oil Co., has resigned, effective Aug. 1.

Mr. Rial started in the oil business with the Standard Oil Co. of Indiana, and was for a number of years associated with the Standard Oil Co. of California before going with the Doheny interests. Mr. Rial has had wide experience in the manufacture of gasoline, lubricating oils, greases, and asphalts from all grades of crude.

As superintendent of the Wilmington refinery of the Pan American since ground was first broken for this plant more than six years ago, he has sponsored many outstanding improvements in refining methods, it is said. As soon as he is relieved of his present duties he will take a rest at his ranch in Tuolumne county, but will return to Southern California in the fall to re-enter oil activities.

Shell Petroleum Official Transferred

TULSA, July 17.—N. J. Hayes, who has been assistant manager of the western division distributing department of the Shell Petroleum Corp., with headquarters in Tulsa, has been transferred to a similar position with the southern division with headquarters in New Orleans.

Mr. Hayes has been in Tulsa as assistant to J. C. Munro since last October, having been transferred here from the Illinois and Wisconsin territory. His new duties will be under the direction of H. Jacobs at New Orleans.

The Editors' Viewpoint

National Petroleum News

Gasoline Business Will be Good

BUSINESS conditions augur for a gasoline business the remaining months of the summer and fall that will be considerably larger than normal for the last six months of the year, as compared with the first half.

There are more automobiles in use today than ever before and although registration figures for the half year are not yet available, indications are that the increase in registration has been larger than in any first half year in the last few years.

More cars have been made and sold than ever before. Sales are continuing at a high rate, according to authoritative reports, and July motor car production will exceed production in any previous July. There has been less shutting down of automobile factories in preparation of new models, largely because present models have had excellent sales.

The leading two manufacturers of small cars are operating at record breaking rates and buyers have had to wait for certain of their body types because of the demand.

So the oil industry can rest assured that there will be plenty of automobiles to consume its gasoline and motor oils.

There is also plenty of money because business is good in most parts of the United States. There is little unemployment and wages remain high.

The movement of goods and materials by railroad was larger the first 26 weeks of 1929 than ever before. The movement exceeded the 1927 record by more than 75,000 cars.

The movement of crops to their markets is just beginning, so the farmer is just commencing to realize on his labors. He will have more money to spend the rest of the year, except possibly in the regions where drought is threatening late crops.

Domestic demand for gasoline in the five months ended May 31 this year was 15.46 per cent larger than in the first five months of 1928, according to U. S. Bureau of Mines statistics. It is likely that the percentage of increase in the remaining months of this year will exceed the percentage of gain in the early months.

There is no cause for pessimism in the demand side of the market.—R. B. S.

The So-Called Passing of the Oil Jobber

MUCH is said these days about how the Independent oil jobber is going out of the picture; how he "can't" exist any more; how consolidation is the cry of the age.

There is much careless talking on the subject and worse thinking. First it is assumed that the jobber sells out to an integrated company because of the press of economic forces; that the big company can operate his business cheaper and better than he can. That is what the average outsider sees in the average sell out, but how often is that true?

When we dig into many of the sales that have been made we find many reasons which have little or nothing to do with the alleged better economies of chain-station operation. One jobber was getting old and had no son to leave his business to. Another had a son but he was no good so the father sold out. Again the man died and his widow sold the business. Another oil man had visions of being a big figure in a big city with his hard earned cash, so he sold out and moved to the city. A very large number of oil jobbers were reasonably along in years and just wanted to get out of the daily grind of business and loaf a bit and see the country. A large number also are dazzled by the cash they can get for their business, but what to do with it or their time after they sell out they never think of.

In a much larger number of cases that is generally known the business has gotten into financial difficulties and has to be taken over by the refiner supplying it to protect the refiner's account or sold to raise cash to clean up the debts.

In these cases it may be argued that the poor financial condition was due to the press of competition from the allegedly more efficient larger companies. Perhaps in some cases in a sense that may be true, but in the vast majority of cases the poor condition of the company is due to poor management, for which there are many, many causes.

Many a man can build up a business but has not the conservatism of keeping it going steadily when built up, and many a man can build a business past his ability to run it.

There are certain economies from large companies but the individual jobber, if he would, can have substantially the same economies. But what is more valuable to him and more important in the business, the individual jobber can put his own personality into his business. Selling is and always will be a personal proposition. It can be standardized to a certain extent but the personality of the individual doing the selling cannot be eliminated or forgotten.

The jobber with the personality, who can and does give the proper management to his business, will stay in this oil business just as long as he wants to and such a jobber will always make a good profit.—W. C. P.

AT THE moment construction under way on office buildings in Tulsa represents expenditures of more than five million dollars, which is the biggest summer-time building campaign in the city's history. Some of it is in the form of additions to present buildings, as in the case of the Skelly Oil Co. building. This latter expansion is typical of what has happened to the oil center in the past few years.

We saw C. C. Herndon, vice-president of the company, giving the construction work his usual critical gaze the other day and joined him in the task. He recalled the circumstances leading up to the present office space expansion.

Back in 1921 the Skelly Oil Co. bought a divided half interest in the six story building at Fourth Street and Boulder avenue. It took the west half, running right to the center of the elevator shaft and the two owners shared the elevator and janitor expense. Skelly then did not use all of its half.

Little by little, as the company's activity increased and more people were employed, tenants were given their notice and finally the Skelly company occupied all but the ground floor. Finally the other half of the building was purchased and the company began overflowing into it.

The same process of growth led some time ago to complete occupancy of the building and finally to quite a crowded condition. Now three more stories are being added, making nine in all. The interior arrangement of the old part is being changed about completely.

Much study has been spent by each department head with the executive officers and architects to plan layouts to fit the various needs. It has been so carefuly studied that as soon as everything is ready, in about two months more, each department will find itself plopped into offices that have been tailored to fit it.

* * *

The airplane in which Art Goebel flew to Honolulu and won the $25,000 Dole prize in 1927 is being put away as a relic for the future. Frank Phillips, head of Phillips Petroleum Co., who financed Goebel, is causing to be built a hangar on his Woolaroc ranch, between Bartlesville and Pawhuska, to house the celebrated craft.

It is Mr. Phillips' idea that some time the ship will be esteemed highly as a relic of the days when men were just learning to use their artificial wings. Another bit of equipment housed on the ranch, is an old stage coach used years ago in Montana.

* * *

G. Staub, process engineer, has resigned from the Continental Oil Co. and joined the White Oak Refining Co. at Allen, Okla. He was employed by the old Marland company at Ponca City for about six years.

* * *

Right in the middle of the late hot spell when everyone else was staying as near the electric fan as was safe, Wallace C. Franklin, vice-president of the Tidal Oil Co., fell to brooding over his golfing style and decided to make himself over.

It seems that the pro delegated to supervise the job found everything was wrong, as they always do, and started in to correct grip, stance and swing, both back and forward. In fact, the judge says the only thing the pro did approve was his plus fours. A rapid recovery is being made, however, and the judge will be ready for battle in another month or so.

* * *

Wichita folk have identified William F. Kenny, who drilled a producer in Sedgwick county last week, as none other than the close friend of Alfred E. Smith, who, as some will recall, ran for president last year. Mr. Kenny accompanied the candidate on all his speaking expeditions.

Scout reports carry the well as the property of Kenny et al. but fail to say whether the "al" is Mr. Smith. True to the reputed wetness of the owner, the well is making water.

* * *

Born: To Mr. and Mrs. Comer Plummer, of Tulsa, a boy, second child. Mr. Plummer is manager of the southwest producing division of the Pure Oil Co. The boy is to be educated as a geologist.

* * *

George H. Baird has been appointed superintendent of operations for the Cities Service Gas Co., Bartlesville headquarters, succeeding Burt Bay, who recently resigned to manage the Missouri-Kansas Pipeline Co. Mr. Baird was operating engineer of the gas company prior to promotion. He has been with the Doherty interests since 1916.

* * *

H. E. Crum, who recently joined the geological department of the Skelly Oil Co., with Amarillo headquarters, has wandered considerably over the world and in consequence has accumulated a stock of diverting stories. One of them concerns a "doodlebug" whose trail he crossed years ago. This oil finder guaranteed his work to the extent of paying half the cost of the hole if no oil was found. His pay was to be one-sixth of the production if the test found oil.

Citizens of a little town were impressed with his reasoning and after some months of delay started a test. It was a failure at the depth he indicated the big pay to be. Thereupon they went around to collect.

"Let me see," said the doodlebug, apparently making something of an effort to remember the bargain, "when was it I told you about that location?"

The citizens replied that it was the preceding April.

"Oh, yes, I do remember," said the wise man. "That was last April and it is now almost a year later. I can't be responsible for what has happened; I told you then that oil is migratory and when I show you a place where it is, the well must be drilled before it gets away."

* * *

The party of Continental Oil Co. executives, who left Ponca City July 2 on a 5500-mile bus tour of properties, returned to Ponca July 19, getting home two days ahead of schedule and averaging about 290 miles per day. There was a near disaster on a mountain road in Colorado, when the vehicle was in danger of toppling over a cliff. Some of the executives left by way of the windows.

* * *

A. N. Horne has been made general superintendent of oil lines of the Empire system, it is announced by F. K. Haskell, general manager of the Empire Pipe Line Co. Mr. Horne succeeds the late R. A. Nelson. He was educated in electrical engineering at the Mississippi Agricultural and

Mechanical College and joined the Doherty forces in 1919.

* * *

From time to time oil executives of the U. S. S. R., formerly Russia, tour the oil fields and refineries of the United States. A visitor to Tulsa last week was M. Barinov, president of Azneft, which is the Soviet producing syndicate in the Baku fields.

He was accompanied by F. Roustambekov, chief technologist and production engineer of Azneft; S. Khambekov, engineer of Grozneft, the producing syndicate in the Grozny fields and by A. G. Fishon, representative of Amtorg Trading Co., New York.

They are a polite and friendly group and through Mr. Fishon, who speaks English well, we kept something of a conversation going, the "we" including W. B. Way, manager of the International Petroleum Exposition and Bob Conine, the big adjective and adverb man of the Exposition.

Mr. Barinov said he had received word that day of a new oil discovery in the Ural Mountain region. He described it as being "10 hours from Moscow," but neglected to specify the mode of transportation. The well, which was drilled, he said, for calcium, found oil at 1,500 feet and flowed 200 tons, or 12,000 poods, or 1,200 barrels daily.

While in Tulsa, the Russian party conferred with Dr. R. C. Beckstrom, head of the petroleum engineering school at the University of Tulsa, who will go to Baku and other Russian fields in October as consultant. Prof. Roswell C. Johnson, of the University of Pittsburgh, is already there, as is Fred Padgett, petroleum chemist, of the University of Tulsa.

Paul D. Torrey, geologist, of Bradford, was considering a similar trip when we saw him in April. The Russians do not hesitate to spend money in getting talent to come over and help them with their petroleum problems.

* * *

Died: In Fort Wayne, Ind., Lester Curie, of Tulsa, 44 years old. Mr. Curie had lived in Tulsa 24 years. He was one time with the interests headed by the late Charles Page, later with the McMan Oil & Gas Co. and the J. Arthur Hull interests. Since 1919 he had operated in partnership with T. J. Wood.

* * *

Died: In Osawatomie, Kans., William L. Mills, 81 years old. He began oil and gas operations in Kansas in 1886 and is reputed to have drilled more than 400 wells in the state.

* * *

R. F. Garland, producer and royalty man of Tulsa, has sold his controlling stock in the Liberty Royalties Corp. to John Fernow, Tulsa.

* * *

Among centers of aviation, Tulsa is unique. No local fliers have tried for a world's endurance record.

Clarence Newbolt is in charge of the newly established Seminole branch of the D. F. Connelly agency, distributors of Goodyear mechanical rubber goods, Broderick & Bascom wire rope and Farrar & Trefts boilers. Bob Jones, of the Tulsa territory, will spend part of his time in the Seminole district.

* * *

Died: In an automobile accident, Mrs. H. C. Miller, Pittsburgh, Pa., wife of the general manager of the Pure Oil Co.'s telegraph department.

* * *

Cores: . . . George S. Speaker has been moved from Tulsa to Kansas City to manage the Cities Service marketing in Missouri, Kansas and Colorado. . . . It is a new division. . . .Enid's new million dollar hotel will have fourteen floors but there will be no thirteenth. . . . A. Baker, of the Ohio Oil Co., Casper, Wyo., has been made assistant secretary of the company. . . . He has headed the land department in the Rocky Mountain states. . . . Charles Self, sales manager at St. Paul for the Cities Service, comes to Tulsa to run the Oklahoma division. . . . Robert E. Markham, Tulsa oil operator, became an operatee last week. . . . His appendix was removed on Monday and he was trying to leave the hospital on Tuesday. . . . Al Carlson, of the Sinclair Crude Oil Purchasing Co., is another who is minus an appendix. . . . No more golf for several weeks. . . . Wylie A. Martin, general manager of the producing department, Sinclair Oil & Gas Co., left Saturday for a vacation. . . . His first stop was Des Moines and his second was Duluth. . . . He didn't stay to see the tournament at the Indian Hills country club for the trophy he sets up for the best left-handed player. . . . Many gas men mourn the passing of Capt. John Tonkin, pioneer in this field, who died in Oil City at the age of 92. . . . Norris Brothers, equipment manufacturers, Robinson, Ill., have opened a Tulsa office. . . . W. E. Sexton is in charge. . . . Col. H. L. Wood, veteran oil writer, has been seriously ill at Shawnee, Okla. . . . Doctors ordered him to go to a higher altitude. . . . Friends raised a fund to take care of medical expenses and pay for the trip and he left Saturday for Casper, Wyo. . . . A. J. Hazlett, editor of the Inland Oil Index, will see that he is comfortably placed on a ranch in that country. . . . More funds could be used.

* * *

Ten Years Ago

(From National Petroleum News, July 23, 1919)

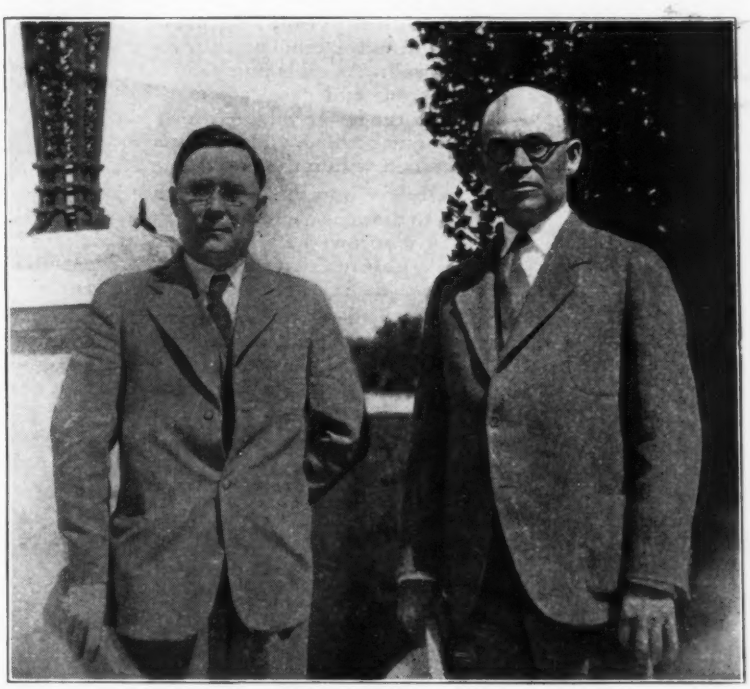
John M. Crawford resigns as president and Homer M. Preston as vice-president of the Oklahoma Producing & Refining Corp.

National Coal Association says fuel oil is a menace to the coal business and asks for tariff on oil imports.

Desdemona pool reaches 50,000 barrels daily.

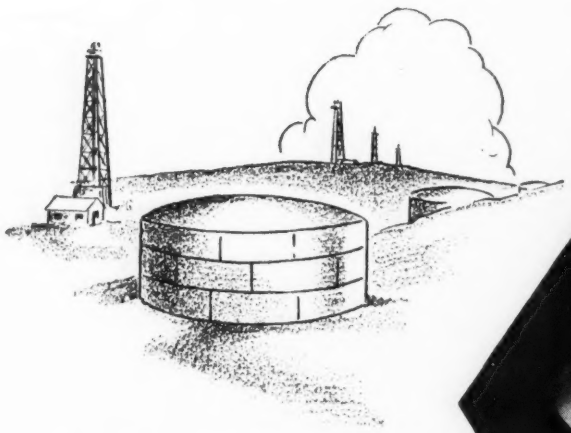
Marriage is announced of F. A. Pielsticker, president of the Midland Refining Co., and Miss Mary Ida Brennan, of El Dorado, Kans.

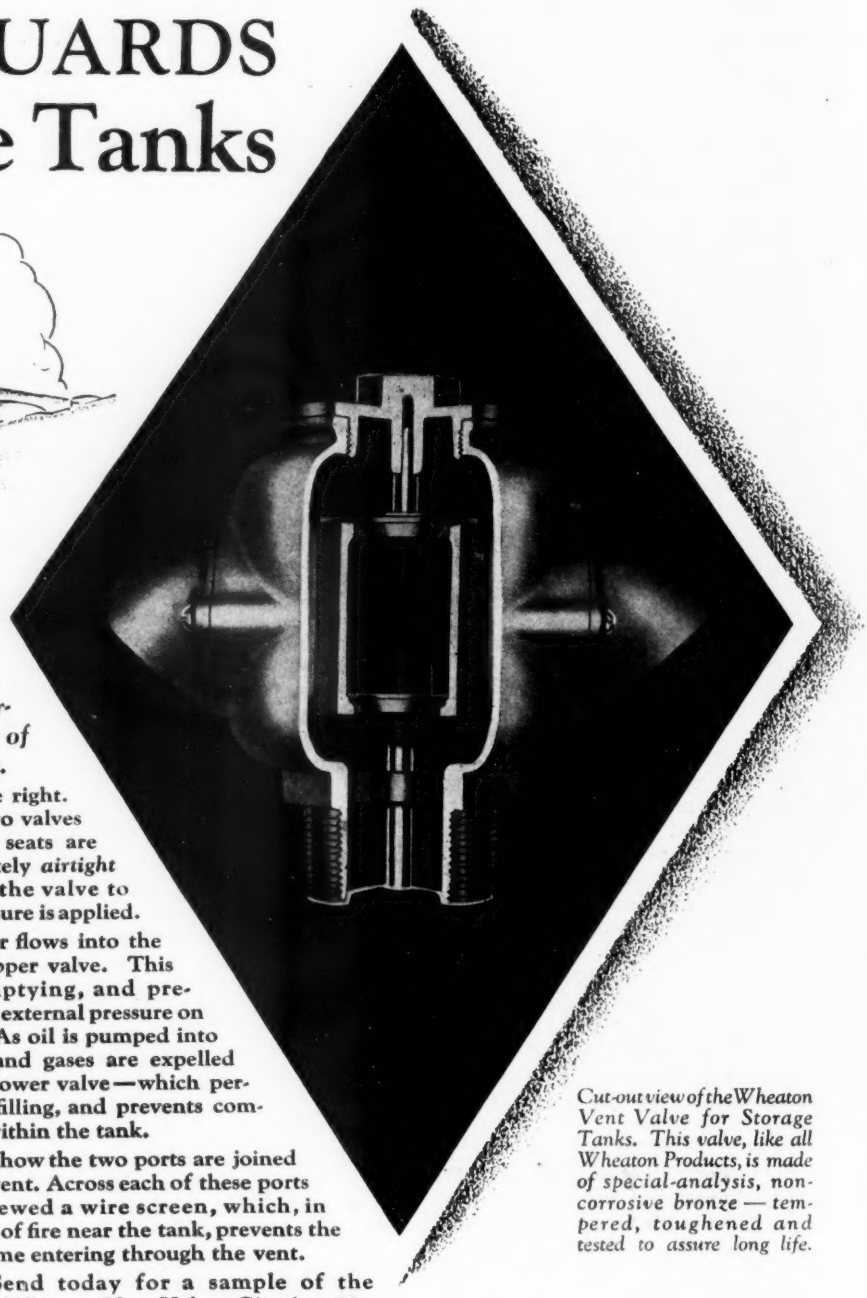
C. C. Brown, oil and gas inspector for the Osage reservation, joins Kay County Gas Co.



An outstandingly successful wildcatter of the Mid-Continent is W. R. Ramsey, of Oklahoma City, who heads the Ramsey Petroleum Corp. He is shown here at the left with Charles E. Orchard, of Denver, independent producer

Read how *perfectly* this vent valve SAFEGUARDS Storage Tanks





Cut-out view of the Wheaton Vent Valve for Storage Tanks. This valve, like all Wheaton Products, is made of special-analysis, non-corrosive bronze — tempered, toughened and tested to assure long life.

The Wheaton Vent Valve for Storage Tanks provides the *perfect admission and expulsion of air*—essential to real *safety.*

Look at the cut-out view at the right. Observe how *precisely* the two valves fit into their seats. These seats are *ground*—they are absolutely *airtight* when shut and enable the valve to open the *instant* air-pressure is applied.

As oil is drawn off, air flows into the tank through the upper valve. This permits quick emptying, and prevents vacuum and external pressure on the tank walls. As oil is pumped into the tank, air and gases are expelled through the lower valve—which permits quick filling, and prevents compression within the tank.

Observe how the two ports are joined to the vent. Across each of these ports is screwed a wire screen, which, in case of fire near the tank, prevents the flame entering through the vent.

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Wildcat Strike in Southern Oklahoma Opens Sand New to Area

By Lawrence E. Smith
N. P. N. STAFF WRITER

TULSA, July 20

OKLAHOMA and Kansas ended the week with slight losses from their production at the close of the previous week. The decline was merely one of those slight fluctuations that are in no sense indicative of the trend, which right now is upward.

Oklahoma is headed for that 725,000-barrel daily figure fixed in a corporation commission order last May as the amount required to take care of summer consumption.

Some unease is voiced by the fraternity in the Mid-Continent. Gasoline prices are soft and quite materially down from the figure of 60 days ago and there are reported consistent encroachments of gasoline from California into territory regularly supplied by Mid-Continent crude.

An apparently authenticated report this week was that one cargo of California gasoline had been bought for Boston delivery at nine cents even, delivered. That would be equal to a netback of about four cents in Oklahoma. It is that sort of pressure that makes for the uneasiness in the Mid-Continent on the crude situation.

The best information that NATIONAL PETROLEUM NEWS can obtain is that there is a small withdrawal from crude oil storage—estimates range from 5000 to 10,000 barrels daily—but that the trend is toward equilibrium and even toward a resumption of storing oil. Crude is backing up on some refiners and at least one major company is now willing to "farm out" some of its connections to other purchasers.

The outlook is for some increase in production, how much no one can estimate, as the amount is all bound up in what happens in the Oklahoma City pool. It made little change during the week, but a half dozen wells nearing completion will afford a better estimate of the probabilities.

In development southern Oklahoma supplied the principal item of news during the week. The Wirt Franklin Petroleum Corp.'s No. 1 Spain, in the SW SE NW of 9-2S-6W, some 10 miles southeast of Duncan, Stephens county, found a sand new to the vicinity and flowed initially about 40 barrels per hour. The well was drilled with rotary and was cored from 3226-38 feet. Eight-inch was set and cemented at 3224 feet and, after plug was drilled out, the hole was bailed. The swab was run once and the well started to flow. Its first 16-hour performance was 492 barrels. The oil is 39° gravity A.P.I.

The Wirt Franklin company has a large block of leases around the well. It owns Secs. 4, 5, 6, 7, 8, 9, nearly all of 10 and the north half of 15, 16 and 17 in this township. The new strike is about midway between the old Velma pool to the northeast and the Comanche pool to the southwest, each being about eight miles away. The Velma pool produces from several sands, ranging from 350 to 2300 feet from the surface, while production in the Comanche pool produces gas and oil at depths ranging from 800 to 1800 feet.

Less than a mile southwest of the new producer there is a dry hole 3600 feet deep and there are other dry holes within two miles which are deeper than the producer. It is reported, however, that these were rotary holes and that they were drilled in days when less care was taken to test the sands encountered so that the same pay the Franklin well got might easily have been passed by.

A few days earlier George Pace opened a new pool in the township next west of the Franklin strike. The Pace well, No. 1 Watkins, in the SE SW SE of 21-2S-7W, found the sand at 1743 feet. Its production climbed during the week until it hit 250 barrels daily. The well is about a mile east of the limit of the Comanche pool.

The Oklahoma City pool made another gain in production, due to the improvement in the Mid-Kansas Oil & Gas Co.'s No. 1 Fortson well, which drilled and drilled and looked as though it never would get the pay. It finally fetched up at 6536 feet, the deepest in the field, and its flow Saturday morning was at the rate of 160 barrels per hour. It is in the center of the SE NE of 24-11-3W, a 40-acre spacing pattern being followed by the Mid-Kansas on the 80 acres it holds out of the Fortson farm. The No. 2 Fortson, in the center of the 40 acres next south of No. 1's location, has been in for some time and is the biggest well in the field.

The Indian Territory Illuminating Oil Co.'s No. 1 Watters, NE NW NE of 25-11-3W, was bottomed at 6349 feet where it was making an estimated 95 million feet of gas. The production shown in the accompanying table was made in a 14-hour test through traps. It is the intention of the company to shut in the gas.

The well is three-fourths of a mile west and a half mile north of the big gas-gasoline well of the Sinclair and Amerada companies, which was the subject of a corporation commission hearing on the gas wastage phase. It is still being produced, gasoline being caught in traps and the gas going into the air. Latest reports from Oklahoma City were that Commissioner Hughes had prepared an order but that Commissioner Capshaw refused to sign it and at least two must concur in a decision. The third member of the commission did not hear the testimony but is reported to be examining the record.

Oklahoma's other important new spot, the Sasawka pool in southeastern Seminole county, is down 4000 barrels from its peak, which was around 13,000 barrels. As of Saturday seven wells made 9264 barrels. Two of the wells are making water. Signal Oil Co.'s No. 1 Bond, SW NE of 13-6-7, a mile southwest of the other Wilcox producers in the field,

Comparative production of the Oklahoma City wells for July 13 and July 20 is as follows:

Company	Well	Prod. July 13	Prod. July 20	Remarks
I. T. I. O.	*Fee	2,028	1,925	959 bbls. water
I. T. I. O.	Button	274	630	
I. T. I. O.	Watters	.....	325	gasoline
Sinclair	Stamper	4,970	5,140	cut 34%-1300 water
Sinclair	Kinter	1,725	1,640	67° gravity
Mid-Kansas	No. 2 Fortson	5,634	5,782	
Mid-Kansas	No. 1 Fortson	91	3,166	
Coline	Olds	5,224	4,716	
		19,946	23,324	

*Discovery.

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has been pinched in to 100 barrels per day. It is located on a 40-acre piece given to the Signal by the Pure Oil Co. for a test, the agreement being that it would be shut in to the 100-barrel figure if it came in a producer until an offset could reach the sand. Before being pinched it was deepened one foot to total of 4163 feet and made 942 barrels in 24 hours with some water from the bottom of the hole.

In the same pool the Prairie Oil & Gas Co.'s No. 1 Patton, NW NW NE of 18-6-8, stopped flowing Thursday. It had been plugged back three feet, leaving it five feet in the Wilcox, which was topped at 4097 feet, and will be put on air lift. It was making 32 per cent sediment and water just before its flow stopped.

There are 19 locations, 10 rigs up and 11 drilling wells in the Sasawka pool but in view of the late performance of some of the wells, a number of the locations will be held up until present drilling wells give more of a line on the pool's worth.

An important test in the older Seminole area, Twin State Oil Co.'s No. 1 Anderson, SE SW NE of 22-9-5, topped the Wilcox at 4243 feet and at 4254 feet total depth had 1500 feet of oil and water in the hole, the water coming from the bottom. It was more than a mile south of Earlsboro pool production and was closely watched, as formationally it had been running favorably.

* * *

Notes on the Week

Three miles from the city limits of Wichita, Kans., the Producers Oil Co. got a failure in its No. 1 Jones, SW NE SE of 31-26-2E, Sedgwick county. It had Wilcox sand at 3359-75 feet and sandy lime at 3630-40 feet where it stopped with a hole full of water. It is more than three miles south of the Greenwich pool where Shell Petroleum and Gypsy Oil have good Wilcox wells.

* * *

Two chat formation producers were added to the Sedgwick county, Kans., list in the Greenwich area, northeast of Wichita. Kenny et al's No. 1 Richards, NE SW SW of 15-26-2E, found pay at 2229-30 feet and the first 24 hours flowed and swabbed 1400 barrels, making two per cent water. The second 24 hours record was not so imposing, the oil production being 752 barrels and the water 240 barrels. A north offset to this well, Deal and others' No. 1 Osborne, had pay from 2925-27 feet and flowed and swabbed 40 barrels per hour.

* * *

One of the closely watched wildcat tests in the Texas Panhandle was the Phillips Petroleum Co.'s No. 1 Taylor, Sec. 244, Block 3, H.&T.C. survey. It is in northeastern Moore county. Last week it developed 1000 feet of water from a sand at 4484 feet.

* * *

A 12,000-acre block of leases in northern Woodward county, Okla., has been taken over by Harris & Haun, of Blackwell, Okla. The block formerly was carried under the name Billy Oil & Gas Co., this company starting a test in the center of the southwest of 9-23-20W. Later, the McClure Drilling Co., of Blackwell, acquired the block and equipment and drilled to 3820 feet. Harris & Haun are rebuilding the rig and will carry the test to 5000 feet.

* * *

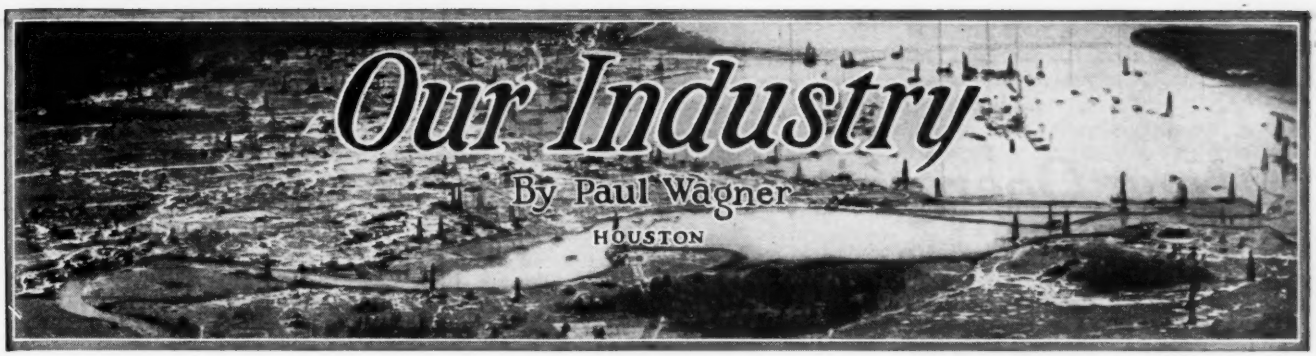
Finis was formally written to the test of the Gypsy Oil Co., No. 1 Thomas, SE NW of 9-6-7, west of the Sasawka pool. It was drilled under a pooling agreement between several companies. Wilcox sand was topped at 4300 feet and at four feet in the hole filled with water.

Worked as Geologist Into Land Division

HOUSTON, July 22.—Wesley I. Gish, division head of the land and geological departments of Sinclair Oil & Gas Co., at Fort Worth, was chief geologist at Tulsa prior to his transfer to Texas more than a year ago. Before first joining the Sinclair organization, Jan. 1, 1925, he was chief geologist of the White Eagle Oil & Refining Co. Prior to that he was associated with Stewart & Wright, consulting geologists, then active in Wyoming and Montana fields.

Mr. Gish is a native of Abilene, Kansas, where he obtained his common school education and where for a time he worked as a youngster in a daily newspaper plant. His higher education was at the University of Nebraska, from which he was graduated with an A.B. degree.

Wesley I. Gish



Charles B. McKinney, Pipeliner, Dead

HOUSTON, July 19.—Funeral services for Charles B. McKinney, 44, general manager of the Houston Pipeline Co., were held July 19 at the late home in Houston. Mr. McKinney died suddenly of a heart attack July 17 after spending the evening with friends.

Pall bearers included officials of the Houston Oil Co. of Texas and the Houston Natural Gas Co., with which the Houston Pipeline Co. is affiliated.

Mr. McKinney was a member of Arabia Shrine Temple at Houston, the Rotary Club, the Houston Club, River Oaks Country Club, Houston Yacht Club, Biloxi Commandery at Biloxi, Miss., and the Blue Lodge, A.F. & A.M., at Biloxi.

He was a native of Texas, born at Cotulla. Most of his boyhood, however, was spent at Eagle Pass. In 1908 he became identified with the Galveston Gas Co. Then, in 1912, he was connected with the gas company at Biloxi. He became vice president and general manager of the North Texas Gas Co., at Denison, in 1914. In 1916 he became president of the Municipal Gas Co., at Dallas, remaining in that position until about five years ago when he moved to Houston.

S. M. Gladney

* * *

Benjamin Andrews Dead

HOUSTON, July 19.—Benjamin Andrews, oil operator and representative in the southwest of the "El Bouef" method of electrical prospecting, is dead in New York where he had accompanied Mrs. Andrews on a trip. News of his death reached his Houston home July 18. Death followed an attack of heart trouble. Mr. Andrews was widely known as a civil engineer, through which profession he came into the petroleum industry.

* * *

William E. Wrather, consulting geologist of Dallas, departed recently for Pretoria, South Africa, where he will attend the Fifteenth International Geological Congress, which will be held July 29 to Aug. 7. Other official representatives from the United States are James A. McDonell and Joseph T. Singewald, Jr.

* * *

J. C. Wright, one of the inventors of the W-K-W drilling bit, is now president and general manager of the Wieman-Krammerer-Wright Co., Los Angeles. Edgar H. Wilson, formerly of the Pacific Coast organization of the Reed Roller Bit Co., is the new W-K-W vice president in charge of sales.

* * *

S. M. Gladney, field superintendent of Sun Oil Co., at El Dorado, also serves the American Petroleum Institute Division of Development and Production Engineering as its Arkansas vice president. Under its present organization arrangement the Texas-Louisiana-Arkansas district of the division has vice presidents in each of the three states. Mr. Gladney, who is widely and favorably known in the producing industry, has been located at El Dorado since the Sun's first activity at Smackover several years ago.

St. Clair Chief Executive of Union of California

LOS ANGELES, July 18.—Announcement is made of the appointment of L. P. St. Clair as executive vice president of the Union Oil Co. of California, succeeding E. W. Clark, retired. Mr. St. Clair was previously vice president in charge of field operations and also head of the Independent Oil Producers Agency, which markets San Joaquin Valley crude through a long-standing contract with the Union.

Mr. Clark, who twice served the American Petroleum Institute as its president, retired in order to devote more time to private affairs. He will retain, however, a place on the executive committee of the Union.

In announcing Mr. Clark's retirement and Mr. St. Clair's choice to succeed him, President W. L. Stewart made known that Paul N. Boggs would become vice president in charge

L. P. St. Clair

New Operating Methods

Eight articles per month in National Petroleum News, an average of two per issue, have discussed new operating methods and solutions to problems facing operators in the oil fields.

What operators are doing to cut costs, new methods and ingenious devices for more efficient work, and other features, are included.

Here are 53 that have appeared since the first of the year for your file reference:

1929

Cementing to forestall well troubles
July 10, p. 41

Larger oil strings for Kettleman Hills casing
July 10, p. 39

Pure water requisite for mixing oil field concrete
July 10, p. 58

Economies in small well production
July 10, p. 61

Oklahoma City pool has peculiar operating problems
July 3, p. 36

Gas lift practice of 15 companies in Seminole
June 26, p. 62; June 19, p. 57

Internal combustion engines drive rotary rig
June 26, p. 43

Oil/water separator made of old casing
June 19, p. 65

Old time bailing plan discarded at Bradford
June 19, p. 70

Simplified method of gaging working barrels
June 19, p. 40

Clamp lengthens life of oil field belts
June 19, p. 66

Back pressure on pumping helpful
June 19, p. 49

Oil well shooting practices discussed
June 12, p. 40

Straight hole drilling in Seminole
June 12, p. 56; June 5, p. 37

No economies in vacuum reduction in Glenn pool
June 5, p. 59

Scientific well spacing for over production
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Bradford water drive speeds as technique improves
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Oil-water separator devised
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Vertical holes possible only thru gravity
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Oil mining in Alsace, Wietze, etc.
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Formula method for well spacing & rate of production.
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Automatic water supply for gas lift.
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Home-made roller bearing stops rod kinking
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Regulation of "beans" increases output
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Inert gas as fire protection in concrete reservoirs.
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How to keep holes straight
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Kansas experiments with rotary successful
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A. P. I. studies crooked holes
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Wells drilled straight slowly reach sand faster
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Large savings from low-pressure separation of gas oil
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Oil well reclaimed with home-made mudding outfit
March 20, p. 212

Individual well record keeps leases profitable
March 13, p. 59

Alcohol keeps gas lift lines open
March 13, p. 66

Perfects method for breaking out air-lift wells
March 6, p. 64

Automatic features on lease save money
Feb. 20, p. 50

Cheaper lifting, better recovery sought in repressuring
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Operators to pay $50,000 for water disposal
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Method for surveying hole deviation
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Cuts expense by removing mud from water
Feb. 6, p. 55

Economics of pipe line pumping Feb. 6, p. 54

Pulsing air-gas cuts repressuring hazards
Jan. 30, p. 60

Engineering makes faster drilling in Seminole
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Repressure equipment cost returned quickly by lease
Jan. 2, p. 29

Barrel pumps save oil at drilling wells
Jan. 2, p. 52

Generates own power in Little River
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Shale carrier removes heavy cuttings from rotary mud
Jan. 2, p. 51

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National Petroleum News

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of field operations. He was formerly vice president in charge of sales.

* * *

A discussion of possible salt deposits in the vicinity of the Jackson fault, is contained in circular 10 of the Geological Survey of Alabama, prepared by Jelks Barksdale, staff geologist. The area is associated with the Hatchetigbee anticline, the oil possibilities of which were discussed in detail in a series of articles prepared by the present writer for the March 27 and April 10, 1929 issues of NATIONAL PETROLEUM NEWS.

Mr. Barksdale refers to salt springs and seeps in Washington, Clarke and Choctaw counties, Alabama, which have been known since the arrival of the first white settlers in the district. Brines from the area were evaporated to produce salt for consumption in the Confederate States at the time of the Civil War.

He describes the general geology of the area and the source of the brines but leaves uncertain the location of deposits of rock salt which are inferred. A list of deep wells drilled for oil and gas in the area is given.

* * *

W. E. Harrison is now northern division superintendent of the Richfield Oil Co., making headquarters at Kern Front offices, Bakersfield, California. He succeeded Fred Abels, resigned.

* * *

F. R. House is now manager of the oil field division of the New York Rubber Corp., with headquarters at Beacon, New York. Although Mr. House represents the factory directly and is officially located at Beacon, he will continue to live in Tulsa. He was formerly connected with the Imperial Belting Co.

* * *

J. H. Miles, formerly vice president of the Pioneer Oil Co., a Houston jobbing firm, has been made president, succeeding the late W. N. Long, who died in April. Lawrence E. Noble succeeds Mr. Miles as vice president and W. H. Bridges takes the place of Mr. Noble as secretary-treasurer. The company was organized last February by men formerly connected with the Galena Signal Oil Co. of Texas, which had been absorbed by The Texas Co.

* * *

W. T. Cushing, recently of the W-K-M Co., Houston, has returned to his former position in the sales department of the Dearborn Chemical Co., Chicago, specializing in pipe line coating sold under the trade name of NO-OX-ID "G Special." Mr. Cushing was for years identified with the pipe line industry of the southwest.

* * *

Joseph B. Elam, secretary of the Louisiana-Arkansas division of the Mid-Continent Oil & Gas Association, Shreveport, has held his present position since the divorce of that organi-

zation from the Texas division in 1922. He came to the petroleum industry from the Southern Tariff Association, of which he had been secretary before joining the Mid-Continent Oil & Gas Association as assistant secretary for Louisiana of the old Texas-Louisiana division. He started his career at Mansfield, Louisiana, in the heart of De Soto parish oil development, as the publisher of a weekly newspaper. He also served Mansfield, years ago, as its mayor.

* * *

J. B. O'Brien, Tampico manager of Compania de Petroleo de Transcontinental, S. A., subsidiary in Mexico of Standard Oil Co. of New Jersey, returned home early in July from a trip to New York.

* * *

The newly formed K.P.H. Royalty Co., with offices at 609 South Grand Avenue, Los Angeles, is composed of Patrick Cassidy and T. K. Sterling. Both were previously identified, at one time or another, with The Texas Co. of California and the Marland Oil Co. of California at Los Angeles.

* * *

Hunter Marston, vice president of the Bancamerica-Blair Corp., has returned to New York headquarters, via Chicago, after a business trip to oil centers of the southwest.

* * *

Mrs. Wallace E. Pratt, wife of the land and geological director of Humble Oil & Refining Co., Houston, is spending the summer in Europe. She is accompanied by her sister.

* * *

President E. J. Marston of the Texas Pacific Coal & Oil Co., Fort Worth, returned home about the middle of July from a trip to New York. He went east with his eldest son, Helme, who recently sailed for Spain in charge of a tutor.

* * *

Harry C. Wiess, refinery vice president of Humble Oil & Refining Co., returned to Houston headquarters about the middle of July after a three weeks business trip to New York and other eastern points.

* * *

Henry C. Morris, president of the Dallas Gas Co., has been identified with industrial affairs of the southwest for more than 20 years, moving to Texas from Bay City, Mich., in 1909, as superintendent of construction and operation for the corporation with which he is still identified. Previously, he had been engaged in the gas business at Bay City and Saginaw, Mich. He became vice president and general manager of the Dallas Gas Co. in 1912, retaining that position until his election to the presidency. He was born in Detroit in 1879.

* * *

Orval L. Brace, formerly in charge of Shreveport offices of the old Marland Oil Co. of Texas, before its reorganization two or three years ago, is now located at Roswell, New Mexico, engaged in Permian salt basin operations. Mr. Brace is a geologist by profession but has taken active part in land and operating affairs of the industry since leaving the Marland organization.

* * *

E. R. (Dad) Fokmar, purchasing agent of the Magnolia Petroleum Co., Dallas, is back at his desk after a severe illness.

* * *

Bayard R. Mackey, formerly in the land department of Compia de Petroleo de Transcontinental, S. A., at Tampico, has sailed for Venezuela, where he will be connected with the Venezuela Gulf Oil Co.

* * *

L. D. Snow, formerly in the engineering department of the Mexican Gulf Oil Co., at Tampico, has been transferred to Houston offices of the Gulf Production Co.

* * *

P. W. Woodruff, production head of the Southern Crude Oil Purchasing Co., subsidiary of Pan American Petroleum & Transport Co., is on a leave of absence from Fort Worth headquarters. He is spending a few weeks at Battle Creek.

* * *

S. M. Anderson of the land department of the Phillips Petroleum Co. is now located at Wichita, Kansas. He was formerly in charge of the Fort Worth office.

* * *

Fred Sealey, assistant division manager of The Texas Co.'s producing department at Houston, recently returned to the Gulf Coastal territory from Wichita Falls, where he had been division chief geologist. Prior to North Texas service he had been identified with geological department work at Houston. Though young in years, Mr. Sealey is an old-timer in The Texas Co. organization.

Fred Sealey

Charles Goddard, director of Humble Oil & Refining Co., and general production superintendent in Southern Oklahoma, has returned to Ardmore after a two months trip to Alaska. While away he bagged two bears, according to information sent friends in Houston. Mr. Goddard started on his trip early in May and returned home at the end of June.

* * *

Roy J. Loucks, formerly purchasing agent of the Republic Supply Co., Houston, is now connected with the sales department of the Hughes Tool Co. Until his resignation he had been buyer for all the Republic's stores in Texas, Louisiana, Arkansas, Oklahoma and Kansas. Gordon Richmond, formerly assistant manager of the Continental Supply Co.'s branch at Houston has also joined the Hughes sales organization.

* * *

C. B. Hulbert, Tampico manager of the Oil Well Supply Co., has been visiting in New England after a business trip to Pittsburgh headquarters. He left Tampico at the end of June, expecting to return about July 25.

* * *

Underwood Nazro, second vice president of the Gulf Production Co., Houston, is spending his vacation this summer on a trip to Norway and Sweden. He expected also to visit in London on his trip. Mr. Nazro is not expected to return home until September.

* * *

West Texas district offices of the Shell Petroleum Corp. were the first to be moved into the new 12-story Petroleum building, built by T. S. Hogan and associates at Midland. C. W. Alcorn, formerly of Dallas, is in charge of the Shell's Midland offices. Other companies now installed in the Petroleum building at Midland include the Wickett Pipeline Co., Barnsdall Oil Co., J.H.L. Oil Co., and Shipley Oil Co.

* * *

W. L. Moody, III, who is associated with O. R. Seagraves in the United Gas Co., Houston, controlling some 15 operating concerns, is a native of Galveston and a son of W. L. Moody Jr. His rise has been rapid in the industry, as reflected by the fact that six years ago Messrs. Moody and Seagraves owned one gas well at White Point, near Corpus Christi, and a short pipeline extending to Taft and Sinton, Texas.

From that small beginning, expansion has been carried to virtually all parts of the southwest through direct ownership or part interest in various fuel corporations handled through the United Gas Co., as a holding corporation.

To Test Area Northwest of Kettleman Hills

LOS ANGELES, July 22

IN THE Coastal and San Joaquin Valley regions several companies have outlined extensive prospecting programs that are intended to show within the near future just what may be expected here in the way of new oil fields.

In line with this search for other fields comes the announcement that Keystone Petroleum Corp. has spudded in its well, True No. 1, on a 500-acre tract subleased from the Rio Grande interests. This test is located on the True ranch, near Surf, and on a structure selected by Frank Morgan, who is credited with the geological discovery of the Elwood field. Mr. Morgan considers the structure very similar to that of the neighboring Elwood Terrace field.

Old records show that the Bear Creek Oil Co. drilled to 2500 feet half a mile south of the True well. The Bear Creek well penetrated an oil sand at 500 feet, and continued in it off and on to nearly 2500 feet, when excessive gas pressure caused a blowout that destroyed the hole.

Working on the geological theory that a series of five domes exists between Coalinga and the lower end of Kettleman Hills, Petroleum Securities Co. has spudded in a well that is intended to probe the productiveness of an area northwest of the Kettleman Hills field.

The well, to be known as the Ladd No. 1, is located in the Guijarral Hills, 13 miles northwest of Milham Exploration Co.'s Elliott No. 1, on the North Dome of Kettleman Hills.

Company geologists are of the opinion that the East Coalinga anticline plunges down and reappears to form the Guijarral Hills. They expect to have to drill below 6000 feet to obtain commercial production.

Petroleum Securities Co.'s engineers have established a record in California fields by running 7328 feet of five-inch, 22.5-pound flush-joint drill pipe in the Nelson No. 1 at Signal Hill, of the Long Beach field.

Shell Oil Co. is coring ahead in hard shale at 9045 feet in its Nesa well in the Signal Hill area. Showings hardly warrant further drilling, as they are of a very streaked nature as far as oil is concerned, but the company intends to drill to at least the 10,000-foot level before suspending operations. Drilling is proceeding at a very slow rate in order to avoid mechanical difficulties.

Deep zones at Santa Fe Springs reached a new peak of production during the week ending July 17, 152 wells yielding 274,465 barrels which, together with 25,322 barrels from the upper zones, gave a total in excess of 300,000 barrels for the field.

Five wells were completed and five recompleted during the week to add 35,000 barrels to the deep zone production and to boost the field total 10,000 barrels.

Nine completions and recompletions were from the O'Connell zone, with an average of 4250 barrels per well. In this zone 29 wells are drilling in, 16 are cemented over, and 14 are preparing to complete in it.

Natural decline, which bids to offset the increase in production caused by the completion of wells in the O'Connell zone, may be checked very shortly if commercial production is obtained from any of the 16 wells drilling in, from the two wells cemented over, or from the three wells that are preparing to complete in the Third Clarke zone. All the projects drilling on the outskirts of the field and that are, therefore, not likely to secure production from the shallower zones, are heading for the oil sand found at or below 7900 feet, that is, in the Third Clarke.

Standard Oil Co. completed its Johnson No. 6 in this zone at 7906 feet for an initial daily production of 1350 barrels of 33.3 gravity oil. A number of projects located near the center of the field are heading for this deep sand and are expected to indicate just what the future may hold in regard to commercial production.

Production by zones showed that 70 wells yielded 220,592 barrels from the O'Connell zone, 48 wells in the Buckbee produced 24,689 barrels, and the Nordstrom zone made 21,910 barrels from 25 wells. This latter zone, although now considered to be out of the picture as far as large new completions are concerned, is still yielding a higher average per well than the wells producing from the Buckbee sand. This is due to the high gas pressure of the Nordstrom zone.

An unusual development occurred the past week in the Coastal region of Summerland, which may add materially to California's production very shortly.

Through the discovery of a new oil sand by Lincoln Drilling Co. in its Williams No. 1 several weeks ago, Southern Exploration Co. was encouraged to proceed with work on its Twitchell No. 1, located on the western edge of the old Summerland field, not far from the Williams well. At 362 feet, 36 hours after spudding in, the Twitchell struck a gas formation and company engineers feared the well would blow in. The well is now reported to be drilling below 475 feet and in a fairly well saturated oil sand.

Summerland, up until the time of the discovery by Lincoln Drilling Co. of a light gravity oil sand below 1200 feet, was considered by geologists to be a condemned area. A few wells are producing a little 14 to 16 gravity oil from very shallow depths.

Lack of sufficient gas pressure in the sand found by the Lincoln well necessitated the use of a pump, although at the time of discovery a strong gas pressure was indicated. Many geologists are of the opinion that the strike by the Southern Exploration Co. will prove to be of little account.

Because of the failure on the part of its engineers to put the Lomas discovery well of the Santa Barbara Mesa field back on production, General Petroleum Corp. will abandon that well together with four others that have drilled into a wet sand.

Several other companies are reported to be contemplating cessation of drilling in the Santa Barbara field unless commercial production is obtained in a number of wells due for production tests within the coming week.

Penn Properties Turned To New Corporation

Robert R. Penn

HOUSTON, July 23.—Operations previously conducted by Robert R. Penn of Dallas, as an individual, are now carried on through the Penn Oil Co., a $2,000,000 Delaware corporation formed to take over his properties. J. M. Willis, Jr., is secretary-treasurer of the company.

Besides Messrs. Penn and Willis, the directors of the company include John R. Black, Marion S. Church, Heath M. Robinson, R. A. Wilson and Marion A. Knight, all of Dallas, and E. C. Marrs of San Antonio.

Geological work of the company is conducted by Mr. Robinson and H. S. Forgeron. W. A. Black, with offices at Midland, has charge of West Texas field activity.

Special Cup offered For Life Saving Contest

TULSA, July 20.—A special cup, with replicas for each member of the winning team will be given to the team making the best score in resuscitation work at the annual petroleum first aid contest to be held at the International Petroleum Exposition. The cup and replicas will be donated by E. W. Bullard of Bullard-Davis, Inc.

The contest this year gives promise of being the greatest held to date, according to D. J. Wallace, safety director for the Mid-Continent Oil & Gas Association. The first contest was held in 1925. The contests since that time have become one of the outstanding events of the Petroleum Exposition each year. This year the safety division of the association has more than 17.000 trained first aid men in the Mid-Continent territory, and more than 300 lives have been saved due to the effectiveness of these workers.

A book of revised rules and problems has been prepared by the association and has been distributed by Mr. Wallace and his assistants. One of the revisions which becomes effective in 1930 provides for a shift in winning teams each year. Teams winning first, second, third and fourth place in the previous year's meeting must drop three working members and substitute three others in order to become eligible for the current year's meet.

Screw Threads Endorsed

CLEVELAND, July 20.—The National Screw Thread Commission has endorsed the screw thread and the screw thread gauge specifications included in the following American Petroleum Institute standards:

No. 3, A.P.I. Dimensional Standards for Cable Drilling Tool Joints.

No. 5-A, A.P.I. Pipe Specifications.

No. 5-L, A. P. I. Line Pipe Specifications.

No. 7-B, A.P.I. Specifications for Rotary Drilling Taper Joints.

No. 11-A, A.P.I. Specifications for Cold Drawn and Machined Working Barrels.

No. 11-B, A.P.I. Sucker Rod Specifications.

A. P. I. Field Chapters Planned in Calif.

LOS ANGELES, July 20.—In order to facilitate the gathering of field data and to being interested operators together in informal conferences, the California section of the A.P.I. division of development and production engineering plans to establish field chapters.

All members of the Institute engaged in the development and production branches of the oil industry will be invited to join these chapters. Under the plan, as now conceived, the work will be of a thoroughly practical nature and educational in character. Field men will be encouraged to bring their problems before the local chapters for discussion and for such assistance as the other members can give. The belief of the organizers is that operators are wasting much time and effort on problems that have already been solved by some companies.

The plans are still tentative and no attempt has been made to determine the exact form they will take.

Completions in Texas, Week Ended July 20, 1929

NORTH CENTRAL AND EAST CENTRAL

Company	Well Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Brown County					
Humble	20-Armstrong	Delgado	Sec-1 Blk-789	1198-1220	100
Lloyd	16-Stanley	Smith	Blk-139	424-431	18
Ven Mex	5-Hickman	McGloin	Blk-801	1277-1299	80
Roff	1-Bull	Honeycutt	Blk-623	T.D. 1147	Dry
Callahan County					
Humphries Bros	7-Gray	D&DA	Sec-40	T.D. 433	Dry
McCleary-Wadsworth	1-Walker	D&DA	Sec-32	T.D. 431	Dry
Bailey-Manciel	1-Williams	Univ.	Sec-139	455-462	2
Coleman County					
Cont. et al	2-Overall	GH&H	Sec-12 Blk-1	2357-2367	42
Cont. et al	8-Overall	Overall	Blk-66	2216-2221	5
Owens et al	1-Mills	Woods	Blk-483	T.D. 2163	Dry
Eastland County					
Hopkins	1-Pippin	TE&L	Sec-3171	T.D. 615	Dry
Arab	1-Phillips	H&TC	Sec-15 Blk-4	3610-3620	112
Belva	7-Goode	Stubblefield		3664-3669	25
McLester et al	1-Lee	Howell	Blk-1	3032-3360	¼M
Erath County					
Associated	1-Evatt	Espinosa	Blk-27	3280-3337	¾M
Jack County					
Rodgers et al	1-Living	TE&L		T.D. 3519	Dry
Fleety et al	2-Maxey	SP	Sec-2	T.D. 570	Dry
Jones County					
Texas	6-Carter	T&P	Sec-13 Blk-19	2984-2996	93
Shackleford County					
Roeser-Pendleton et al.	3-Titus	Williams		605-606	30
Roeser-Pend. et al.	2-Titus	Williams		606-618	25
Roeser-Pend. et al.	1-Titus	Williams		595-609	35
Roeser-Pendleton	12A83-Cook	ET	Sec-83	1391-1400	75
Roeser-Pendleton	13A62-Cook	ET	Sec-62	1372-1379	50
Roeser-Pendleton	42A61-Cook	ET	Sec-61	1315-1340	45
Roeser-Pendleton	41A61-Cook	ET	Sec-61	1216-1219	60
Oyster-Fife	1-Davis	T&P	Sec-15 Blk-14	1604-1614	35
Wade	1-Lannon	King		T.D. 653	Dry
Cranfield-Reynolds	3-Moberly	T&P	Sec-48 Blk-11	T.D. 1110	Dry
Stephens County					
Chastain-Donnelly	1-Ellis	Bailey		T.D. 3400	Dry
Texas-Pacific	4-Pierce	T&P	Sec-45 Blk-6	2013-2023	10
Texas-Pacific	3-Pierce	T&P	Sec-45 Blk-6	1996-2010	10
Throckmorton County					
Roeser-Pend. et al.	4-Titus	Williams		593-606	25
Roeser-Pend. et al.	3-Titus	Williams		592-601	40
Pannel et al	1-Downing	TE&L	Sec-913	445-451	8

NORTH TE&AS

Company	Well Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Archer County					
Burns	2-Wilson	ATNCL	Sec-114 Blk-4	1217-1240	25
Continental	5-Richardson	McCoy	Sec-10	1152-1154	66
Fain-McGaha	5-Taylor	ATNCL	Sec-17 Blk-11	1489-1490	60
Gilliland	3-Roach	TE&L	Sec-1595	1243-1261	40
Humble	4-Kunkel	BBB&C	Sec-3	1169-1184	350
Madden	18-Richardson	SAR		1284-1303	25
Payne et al	5-Parish	SP		1579-1583	20
Bradstreet	1-Wilson	Toby	Blk-27	T.D. 750	Dry
Burns et al	1-N-Wilson	ATNCL	Sec-94 Blk-2	T.D. 1711	Dry
Continental	6-Richardson	McCoy	Blk-10	T.D. 1159	Dry
Empire	1-Parkey	SP	Sec-2	T.D. 1775	Dry
Freeman-Grebin	6-Hennig	Meade	Blk-21	T.D. 1450	Dry
Hodge-McCarty	1-Lane	Meade	Blk-46	T.D. 1462	Dry
Humble	1-Turbeville	Carson	Blk-154	T.D. 1529	Dry
Josey et al	3-Prideaux	Dorsey	Blk-24	T.D. 619	Dry
Kemrow	7-Campbell	DCSL	League-3 Blk-1	T.D. 1237	Dry
Long et al	5-Farmer	Winters		T.D. 1505	Dry
McLaughlin Bros.	1-Justice	Patton		T.D. 1268	Dry
Pandem	1-Long	Harris	Blk-94	T.D. 1450	Dry
Texas	1-Williams	Simmons	Blk-15	T.D. 1402	Dry
Cooke County					
Fain-McGaha	1-Huggins	SP		1181-1190	124
Benson Bros. et al.	1-Goff	SP		T.D. 2004	Dry
Texas	1-Emby	Rogers		T.D. 2003	Dry
Wright et al	1-English	Farris		T.D. 1266	Dry
Foard County					
Shell	1-Tarver	GC&SF	Sec-3	2014-2054	188
Wichita County					
Panhandle	7-Burnett	Meade		T.D. 1504	Dry
Barkley-White	1-Hodge	DWVFL	Blk-38	T.D. 1857	Dry
Jackson Jr.	1-Mitchell	Castleman	Blk-23	T.D. 1852	Dry
Mount	1-Myers	RRVL	Blk-7	T.D. 1648	Dry
Riner-Bailey	7-Mitchie	Netherly		1783-1795	80
Riner-Bailey	1-Michie	Netherly		1791-1795	20
Hammon	2-Bradley	Holloway		1689-1693	26
Hunter	3-Waggoner Bros.	George	Blk-1	1303-1321	60
Bridwell-Clark	2-Cullers	YCSL	Blk-25	587-604	6
Young County					
Cont.-Burton	1-Morrison	TE&L	Sec-3401	T.D. 982	Dry
Montgomery-Jones	2-Keen	TE&L	Sec-3401	T.D. 850	Dry
Texas	2-Patty	BBB&C		T.D. 950	Dry

PANHANDLE

Company	Well Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Carson County					
Empire	16-Burnett Est.	I&GN	Sec-104 Blk-5	2683-2740	22M
Travis	1-Harrell	I&GN	Sec-162 Blk-7	T.D. 3760	Dry
Gray County					
Texas	6-Saunders	ACH&B	Sec-4 Blk-1	T.D. 2812	Dry
Barnsdall	1-Davis	ACH&B	Sec-9 Blk-1	T.D. 3010	Dry
Texas	5-McCarty et al.	ACH&B	Sec-2 Blk-1	2756-2910	189
Texas	2-Bull	H&GN	Sec-2 Blk-B-2	2770-2917	917
Phillips	2-Palmer	H&GN	Sec-31 Blk-B-2	2837-2843	1520
Phillips	1-Morse	H&GN	Sec-68 Blk-25	2782-2792	223
Operators	2-Cook	H&GN	Sec-30 Blk-B-2	2840-2843	4315
Empire	1-Brown	H&GN	Sec-238 Blk-B-2	2860-2933	5M
Inspiration	1-Morse	H&GN	Sec-3 Blk-26	2618-2627	4M
Hutchinson County					
Alamosa	1-Sanford	H&TC	Sec-83 Blk-46	T.D. 3076	18
Wheeler County					
Magnolia	1-Trostle	H&GN	Sec-130 Blk-23	1795-1810	45M
Upham	2-Gootch	H&GN	Sec-81 Blk-23	1540-1553	25M

WEST TEXAS

Company	Well Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Howard County					
Moody	13-Roberts	W&NW	Sec-136 Blk-29	1387-1432	415
Humble	3-Clay	W&NW	Sec-138 Blk-29	2933-2964	500
Amerada	10-Roberts	W&NW	Sec-137 Blk-29	2929-2964	800
Magnolia	2-Hyman	W&NW	Sec-88 Blk-29	1314-1317	20
Pecos County					
Shell	1-Univ.	Univ.	Sec-29 Blk-16	T.D. 1770	Dry
Buell-Hagan	1-Univ.	Univ.	Sec-36 Blk-18	1320-1332	12½
Taylor-Link	1-Univ.	Univ.	Sec-30 Blk-16	613-628	82 (14 Hrs.)

Completions in California, Week Ended July 13, 1929

Long Beach

Company	Well No.	Location	Depth	Init. Prod.
Congress Pet. Corp.	No. 1	....	7025	2000
Dabney Johnson Oil Co.	No. 7	....	6630	215
Dabney Johnson Oil Co.	No. 28	....	7330	2000
Dabney Johnson Oil Co.	No. 31	....	7440	2550
Delaney Pet. Co.	Wellington No. 1	....	7200	1250
Dunlap O. D.	No. 2	....	4740	350
Richfield Oil Co.	Hass No. 11	....	6954	275
Shell Oil Co.	Slusher No. 16	....	6886	1765

Santa Fe Springs

Cooperative Oil Synd.	No. 2	....	6800	5000
Pullian K. G.	No. 1	....	6820	6500
Rio Grande Oil Co.	Community No. 2	....	6569	240
Shell Oil Co.	G. H. N. No. 17	....	6522	1000
Standard Oil Co.	Walker No. 13	....	6563	350
Union Oil Co.	Alexander No. 17	....	6850	9000
Union Oil Co.	Bell No. 34	....	6850	5435

Dominguez

Company	Well No.	Location	Depth	Init. Prod.
Shell Oil Co.	Reyes No. 39	....	4900	3100

Seal Beach

Associated Oil Co.	Bryant No. 1	....	5770	1128
Marland Oil Co.	Bixby No. 9	....	5615	1120

Ventura Avenue

Shell Oil Co.	Taylor No. 30	....	7110	856
Shell Oil Co.	Gosnell No. 29	....	7450	300

Maricopa Flats

North Amer. Cons. Oil Co.	Sunset Extension	No. 1	3043	4000

Mt. Poso

Pet. Securities Oil Co.	Glide No. 16	....	1848	Shut in

New Field Operations in Oklahoma, Kansas, North, North Central, East Central, Panhandle and West Texas, Week Ended July 20, 1929

OKLAHOMA

Beckham Count

Company	Well No. & Farm	Location
Martin-Kay	1-Martin	C N½ 32-8-24 W

Cotton County

Everts	1-McAlester	NWc NE 14-2-10 W
Silurian	7-Chambers	SEc NW NW 2-2-10 W
Moore et al	2-Cobb	NWc SW SW NE 2-2-10 W

Creek County

Shaffer	1-Knight	NEc 16-15-8 E OWD
Curtis	1-Sewell	NE SE NE 27-16-10 E
Magnolia	3-Tiger	SW NW SE 17-17-7 E
Skelly et al	1-Goodman	SWc 23-17-9 E
Thompson-Black	4-Wilson	NWc SW 16-17-11 E
Beal-Plumb	2-Walker	SE NE NW 26-18-9 E
Bartlett	1-Parks	SE NW NW 30-18-9 E
Short et al	1-Asbury	NEc SW 1-19-8 E

Grady County

Okla. Gas Util.	15-Farwell	C SW NW 26-5-8 W

Grant County

Bailey et al	1-Brewer	C SW SE 20-27-5 W
Sinclair et al	1-Dickerson	SW NW NE 36-28-3 W

Hughes County

Furhman	3-Buck	C SE SW 21-9-10 E

Jefferson County

Monahan-Porter	1-Paddock	CNL NW NE 35-5-7 W

Kiowa County

Cooper-Terhune	2-Ditmar	SEc NE NW NE 19-6-16 W

Lincoln County

Blackwell	1-McKeown	NE SW SW 27-17-4 E

Muskogee County

Sioux	1-Martin	NWc SE 21-11-19 E
Babcock Bros.	6-Barnett	SWc NW NE 8-15-15 E
Hutchinson	1-Grayson	SWc NE NW 13-15-15 E
Price et al	2-Howard	SWc NW NW NW 29-15-16 E
Rose	11-Howard	NEc SE NE NE 30-15-16 E

Noble County

Magnolia	1-Young	NE NW NW 22-21-2 W

Okfuskee County

Minnehoma	2-Grayson	NWc SE 31-11-11 E
Mid-Continent	2-Dindy	SW SE NE 31-11-11 E
McMahon-Carey	2-Foster	NW NE NE 32-12-10 E
Superior	1-Carolina	SEc 6-11-7 E

Oklahoma County

Slick	1-Martin	C NW NW 13-13-1 W
Mid-Kansas	4-Fortson	NE NW NE 24-11-3 W
Mid-Kansas	3-Fortson	NWc NE 24-11-3 W
I. T. I. O.	2-Fortson	NEc 24-11-3 W
I. T. I. O.	1-Fortson	NW NE NE 24-11-3 W
Coline	4-Olds	NEc NW 24-11-3 W
Slick	2-Glidden	SE SW SE 13-11-3 W
Slick	1-Glidden	SWc SE 13-11-3 W
I. T. I. O.-Foster	2-Wheeler	SE NW SE 13-11-3 W
I. T. I. O.-Foster	1-Wheeler	SW NW SE 13-11-3 W
I. T. I. O.-Foster	2-Verne	NE SW SE 13-11-3 W
I. T. I. O.-Foster	1-Verne	NW SW SE 13-11-3 W
I. T. I. O.	3-Trosper	SEc SW 13-11-3 W
I. T. I. O.	2-Thomas	SEc 13-11-3 W
I. T. I. O.	1-Thomas	SW SE SE 13-11-3 W
Cromwell—I. T. I. O.—Franklin	1-Trosper	SE SW NE 13-11-3 W
Shell et al	3-Petty	NEc 30-11-2 W
I. T. I. O.—Foster—Cromwell	1-Farley	NWc 19-11-2 W
Coline	1-Warren	SWc 18-11-2 W

Okmulgee County

Nicholson	3-McIntosh	NEc 14-11-13 E

Osage County

Fisher et al	2-Pinkstaff	NWc SE 16-21-7 E
White Eagle	1	SW NE SW 28-21-11 E
Branstetter et al	1	SEc SW 23-23-10 E
I. T. I. O.	259	SEc NW NW 36-23-10 E
Peters	7	CSL NW 32-24-9 E
Peters—Prod. & Refs.	3	SWc NW 11-26-8 E
Peters—Prod. & Refs.	2	NE SE SW 22-27-11 E
I. T. I. O.	411	SE NW NW 1-28-10 E
Jennings	1	NWc SW 32-29-12 E

Pawnee County

Martin et al	5-Cotton	NW NE SW 6-20-8 E
Swift et al	4-Smeltzer	SEc NW 35-20-9 E
Capitol Hill	1-Green	NEc SE 25-21-8 E

Pottawatomie County

Magnolia-Pierce	3-Hubanks	NW NE NW 17-7-4 E
Magnolia	1-Lynn	NW NE NE 21-7-4 E
Gypsy	4-Green	NE NW SE 17-7-4 E
Magnolia	1-Hilton	NWc 22-7-4 E
Shell	1-Hines	NE SW NW 22-7-4 E
Simms	1-Townlot	NWc NE NE NW 19-6-4 E
Gypsy	1-Blackbird	NWc SE NE NW 19-6-4 E
McCullouch et al	1-Luckett	NEc NW 28-10-5 E

Seminole County

Gypsy	6-Payne	NE SE NE 5-7-7 E
Marland-Shaffer	4-Harris	SW NW SW 4-7-7 E
Sinclair	5-Phillips	SE NE SE 5-7-7 E
Mid-Continent	1-Yarhola	NE SE NE 8-7-7
I. T. I. O.	1-Fleet	NEc SW 13-6-7 E
Shell	4-Holatka	NEc SE 7-6-8 E
Shell	3-Holatka	SE NE SE 7-6-8 E
Blackwell	1-Hall	SWc 5-6-8 E
I. T. I. O.	1-Patton	NW NE NE 18-6-8 E
I. T. I. O.	2-Fleet	NE NW SE 13-6-7 E
I. T. I. O.	3-Holatka	NE SE SE 7-6-8 E
I. T. I. O.	2-Holatka	SW SE SE 7-6-8 E
I. T. I. O.	1-Davis	SW NW SW 8-6-8 E
Carter	1-Aldridge	SE SW NE 7-6-8 E
I. T. I. O.	1-Tiger	NE SE NW 13-6-7 E
Carter	2-Aldridge	SWc NE 7-6-8 E
Signal	2-Bond	NW SW NE 13-6-7 E
Signal	3-Bond	NE SW NE 13-6-7 E
Signal	4-Bond	SE SW NE 13-6-7 E
Pure	1-Bates	SW NW NE 13-6-7 E
Pure	2-Bates	SW SE NE 13-6-7 E
Kingwood	1-Price	SEc NW 13-6-7 E
Indep.-Margay	1-Holatka	SW SE NE 7-6-8 E
Blackwell	1-Vanbuskirk	SEc NW 7-6-8 E
Gypsy	2-Peters	NE SE NE 23-5-7 E
Gypsy	3-Peters	SW SE NE 23-5-7 E
Sinclair	2-Joanna	SWc NW 24-5-7 E
Sinclair	3-Joanna	NW SW NW 24-5-7 E
Sinclair	3-Jefferson	SW NE SE 23-5-7 E
Sinclair	3-Jefferson	SW NE SE 23-5-7 E
Sinclair	4-Jefferson	SE NW SE 23-5-7 E
Sinclair	5-Jefferson	NW NE SE 23-5-7 E
Amerada	1-Marks	SWc NE 32-10-6 E
Barnsdall	3-Noble	SE NW SW 18-9-6 E
Barnsdall	4-Noble	NW SE SW 18-9-6 E
Gypsy-Devonian	6-Payne	SE NE SE 18-9-6 E
Burke-Greis	1-Templeton	NW SW SW 17-9-6 E
Carter	1-Wisner	SWc NE 16-9-6 E
Magnolia	11-Anderson	SW NE SW 18-9-6 E
Magnolia	10-Anderson	SE NE SW 18-9-6 E
Amerada	2-Sullivan	NW SW NW 17-9-
Amerada-Gypsy	1-Coner	SW NW SW 20-7-6
Shell	5-Hotulke	SW NE NW 23-7-6 E
Magnolia	6-Reed	SEc NE 22-7-6 E
Pure	11-Cotcha	NEc 23-7-6 E
Texas	7-Hotulke	NE SW NW 23-7-6 E
Gypsy	1-Nevins	SEc 31-10-6 E
Carter	2-Davis	SEc SW 7-6-8 E
Carter et al	2-Phillips	NEc NW 18-6-8 E
Sinclair	8-Davis	SE SW SE 7-6-8 E

Stephens County

Beaver	2-Funk	CSL N½ NE NW 30-1-8 W
Pace et al	7-McMasters	SEc NW SE NE 13-2-8 W
Pace et al	1-Woodward	NEc SE NE NE 14-2-8 W

(Continued on Page 47)

New Field Operations in Oklahoma, Kansas, North, North Central, East Central, Panhandle and West Texas, Week Ended July 20, 1929

(*Continued from Page 46*)

Tulsa County

Company	Well No. & Farm	Location
Operators	1-Leverette	C SW 4-19-11 E
White Eagle	1-Page	SE SW NE 2-19-11 E

Wagoner County

Finefield	7-Vann	C W½ NE SW 22-16-19 E
Creekmore et al	11-Tiger	CSL NW SW 21-18-16 E

KANSAS

Chase County

Sheedy et al	1-Hugh	NEc SE 24-21-9 E

Chautauqua County

Miller	3-Wiggam	NW SE SE 33-32-10 E
Miller	2-Wiggam	SEc 33-32-10 E

Cowley County

Roth-Faurot	1-McErwin	SWc SE 7-32-5 E
Texas	15-Eastman	NE SW NE 6-31-6 E

Elk County

Denton et al	3-Elsten	SE NW NW 15-31-10 E

Ellis County

Thomas-Moncreif	1-Strailey	NWc SE 9-13-19 W
Phillips	2-Johnson	SE SW NE 9-13-19 W
Phillips	1-Barjo	SEc NW 9-13-19 W

Harvey County

Payne et al	1-Ady	NE NW SE 16-24-1 E
Superior	1-Rigier	SEc NW 11-22-3 W

Kingman County

Fleeger	1-Rayl	SEc NE SE SW 16-27-7 W

McPherson County

Mid-Kans	1-Kuns	C SE SW 11-20-5 W
Texas	1-Munn	NWc NE 12-20-2 W

Russell County

Prairie-Slick et al	1-Sellens	NEc SW 36-15-13 W
Pryor-Lockhart et al.	1-Sellens	NWc SE 36-15-13 W
Empire	1-Ochs	SE NE NE 23-15-14 W

Sedgwick County

White Eagle et al	2-Robbins	SE NE SE 20-28-1 E
Davis et al	1-Kincaid	NEc 14-27-1 E
Plains et al	1-Curry	SEc SW SW 2-27-1 W
Rogers et al	1-Stollie	SEc NW SE SW 15-26-2 E
Davis-Skelly	12-Wilson	NW SE NE 1-26-1 W
Bu Vi Bar et al	9-Shawver	SW NE NW 7-26-1 E
Bu Vi Bar et al	7-Wright	NW NE SE 12-26-1 W

Sumner County

Davis-Harreld et al.	1-McEowen	SEc 33-34-2 E
Shell	1-Armstrong	NEc 12-33-1 E
Blackwell et al	1-Clift	SEc NW 26-33-3 W
Champlin	4-Love	SE NW SW 9-30-2 W
Champlin	1-Murray	NWc SE 9-30-2 W
Washoma et al	3-Bussard	CEL NE SW 36-31-2 E

TEXAS

NORTH CENTRAL & EAST CENTRAL

Brown County

				Survey
Lloyd	17-Stanley	Blk-139		Smith
United Royalties et al.	1-Crane	Blk-107		Pratt
Cranfill-Reynolds et al.	1-Barkley	Blk-649		McGee
Warren et al	3-Duff	Blk-624		Kenney
Estacado	1-Bull	Blk-623		Honeycutt
Daniels et al	1-Whiteside	Blk-627		Banister
Smith	1-George	Sec-42		Chaddock
Thompson	1-Newton	Blk-282		Jones
Beasley	1-Bell	Sec-69 Blk-272	Kerr Co. Sch. Ld.	
Ven Mex	24-Hickman	Blk-783		Benson
Humble	22-Armstrong	Sec-1 Blk-789		Delgado
Humble	23-Armstrong	Sec-1 Blk-789		Delgado

Callahan County

Kleiner Bros	1-Biggerstaff	Sec-310	SP
Ellis-Dumas	1-Irvin	Sec-349	Benton
Ellis-Dumas	1-Windham	Sec-162	GH&H
McCleary-Conway et al.	1-Walker	Sec-30	D&DA

Coleman County

Eastland et al	8-Morris	Sec-13 Blk-722	Webber
Midwest Explor	1-Blackwell	Blk-361	Martez

Eastland County

Fulcher	1-May		Mason
Mook Texas	1-Casy	Blk-59	McLennan Co. Sch. Ld.
Lewis-Moore	4-Harbin	Sec-27 Blk-2	H&TC
Moody	2-League	Sec-467	SP
Arab et al	1-Hough	Sec-56	BBB&C
Hopkins	1-Ray	Sec-69 Blk-4	H&TC
Texas-Wa-Kirk	1-Murrell	Sec-30 Blk-2	H&TC

Erath County

Mengus	1-Hatcher	Sec-22	Espinosa

Jack County

Texas	2-Daugherty		Hughson
F. H. E.	4-Box		Hughson
F. H. E.	3-Leffee		Hughson
McGinley-Sigler	1-Graham		G&BNCo

Shackelford County

James	1-Newell	Sec-87	ET
Roeser-Pendleton	43A61-Cook	Sec-61	ET
Roeser-Pendleton	44A61-Cook	Sec-61	ET
Roeser-Pendleton	7A88-Cook	Sec-88	ET
Roeser-Pendleton	8A88-Cook	Sec-88	ET
Roeser-Pendleton	9A88-Cook	Sec-88	ET
Segrick-Well et al.	1-Newell	Sec-115	ET

Stephens County

Herbert	1-Caton	Sec-5 Blk-5	T&P

NORTH TEXAS

Archer County

Company	Well No. & Farm	Location	
Continental	7-Richardson	Blk-10	McCoy
Massie	1-Richardson	Blk-9	McCoy
Shappell	8-Lyles	Blk-7	Hooper
Freeman	7-Hennig	Blk-21	Meade
Magnolia	1-Justice		Patton
Pet.-Prod.-Hines	1-Richardson	Blk-11	Scott
Gilliland et al	5-Roach	Sec-1595	TE&L
Humble	21-Hamilton	Blk-1	Crawford
Pet. Prod	6-Kunkel		BBB&C
Pet. Prod	7-Kunkel		BBB&C
Madden	1-Schlagel	Sec-2	BBB&C
Underwood-Atlantic	1-Andrews	Sec-1805	TE&L
Josey et al	4-Prideaux	Blk-24	Dorsey
Wise-Jackson et al.	1-Inman		McKimbs
Nix	1-Matlock	Blk-25	Toby

Cooke County

Humble	4-Poteet		Stephens

Foard County

Shell-Fain & McGaha	1-Johnson		Johnson
Phillips	1-Owens	Sec-327 Blk-A	H&TC

Grayson County

Murchison	3-Wahl		Reeves
McKinney-Rogers	1-Taylor		Allen
Rewault	1-Woods et al.		Reeves

Palo Pinto County

Elmore et al	1-Costello Bros.	Sec-2	Costello
Bolin-Lindsay	2-Costello Bros.		Smith
Brazos River	14-Western		Smith

Wichita County

Riner-Bailey	5-Michie		Netherly
Comac Drlg. et al.	8-Bishop		Netherly
King Royalty	5-Boyd		Lewis
Bullington-Lee et al.	5-Jennings	Blk-12	HT&B
Akin-Rayzor	1-Burnett	Sec-4	HT&B
Hines-Humble	3-Waggoner Bros.		Willis
Hammon	3-Bradley		Holloway
Hammon	1-Munger	Sec-24 Blk-9	KWVFL
Rowe et al	4-Waggoner Bros.	Sec-2 Blk-13	GC&SF
Hunter	4-Waggoner Bros.	Blk-1	George
Texas	3-Mangold	Blk-37	Castleman
Mount	3-Waggoner Bros.	Blk-10	George

Wilbarger County

Barkley-Meadows	C-10-Waggoner	Sec-5 Blk-5	H&TC
Baker et al	H-2-Waggoner	Sec-22	H&TC
Harris	1-Waggoner	Sec-22 Blk-4	H&TC
Easter	A-6-Waggoner	Sec-26 Blk-4	H&TC
Texas	E-19-Waggoner	Sec-25 Blk-4	H&TC
Staley-Wynne	E-1-Waggoner	Sec-25 Blk-4	H&TC
Empire	B-17-Waggoner	Sec-32 Blk-4	H&TC
Empire	B-18-Waggoner	Sec-32 Blk-4	H&TC
Empire	C-10-Waggoner	Sec-25 Blk-4	H&TC
Empire	C-11-Waggoner	Sec-25 Blk-4	H&TC
Marland	1-Foster		Carlson
Consolidated	1-Streit		Gosnett

Young County

Trinity	1-Loften		Bussey
Bridwell-Clark	3-Cullers	Blk-25	YCSL
Parks	1-Carpenter		Sergeant
Stafford	1-Brown	Sec-290	TE&L

PANHANDLE

Gray County

Tharp et al	1-Finley		Chaney
Texas	4-Davis	Sec-8 Blk-1	ACH&B
Texas	7-Chapman	Sec-50 Blk-25	H&GN
Texas	3-Bull	Sec-2 Blk-B-2	H&GN
Shamrock et al	2-Clayton	Sec-50 Blk-25	H&GN
Shamrock et al	2-Chapman	Sec-50 Blk-25	H&GN
Phillips	5-Palmer	Sec-31 Blk-B-2	H&GN
Phillips	6-Jackson	Sec-88 Blk-B-2	H&GN
Phillips	1-Blaisdell et al.	Sec-56 Blk-23	H&GN
Operators	4-Cook	Sec-30 Blk-B-2	H&GN
Herrogan	1-Bradford	Sec-123 Blk-B-2	H&GN
Gardner-Collins et al.	2-Saunders	Sec-1	Eustice
Adams	3-Morse	Sec-3 Blk-26	H&GN

Moore County

Phillips	5-Sneed		Robinson

Wheeler County

Upham	3-Gootch	Sec-81 Blk-23	H&GN
Vaughn et al	3-Ackley	Sec-4 Blk-27	H&GN

WEST TEXAS

Crane County

Warner-Quinlan	5-Davis	Sec-39 Blk-30	Univ.

Garza County

Emerald	1-Bardsley	Sec-135 Blk-5	H&GN

Glasscock County

Lion	1-Coffee	Sec-22 Blk-33	T&P

Howard County

Howard	3-Abrams	Sec-5 Blk-32	T&P
Simms	1-Clay	Sec-127 Blk-29	W&NW
Moody	16-Roberts	Sec-137 Blk-29	W&NW

Irion County

Wiltmer	1-Meyer	Sec-11 Blk-2	H&TC

Pecos County

Humble	7-Smith	Sec-101	TC
California	20-Yates	Sec-34 Blk-194	TC

Ward County

Gulf Prod	6-O'Brien	Sec-20 Blk-F	G&MMB&A
Gulf Prod	2-Wristen	Sec-17 Blk-5	H&TC

Completions in Oklahoma and Kansas, Week Ended July 20, 1929

OKLAHOMA

Carter County

Company	Well No.	Location	Depth	Init. Prod.
Magnolia	7	SE SW SW 33-1-3 W	3420-4085	30
Magnolia	3	SE NE NW 12-1-4 W	2831-3446	130

Cotton County

Company	Well No.	Location	Depth	Init. Prod.
Lawton	2	SEc NW 3-2-10 W	2260-2265	1M
Moore et al	3	NWc SE SE NW 2-2-10 W	2160-2178	40
Silurian	2	SWc NE NW 2-2-10 W	2144-2152	35

Creek County

Company	Well No.	Location	Depth	Init. Prod.
Carter	8	SWc SE NE NE 18-16-9 E	3015-3017	440
Selby	5	NWc NE SE NE 18-16-9 E	3026-3028	915
Jackson-Wise	1	SEc NW 3-17-10 E	1010-1016	2.5M
Magnolia	26	NE SW SE 8-18-7 E	2559-2673	20
Magnolia	35	NWc 16-18-7 E	2400-2549	10
Bailey et al	4	NW SW SW 21-18-9 E	2545-2640	60
Wallace et al	1	SEc 27-18-9 E	2728-2765	15
Alwood et al	1	NE SW SE 31-18-11 E	1680-1687	2.5M
Magnolia	31	SW SE NE 7-18-7 E	T.D. 2946	Dry

Garfield County

Company	Well No.	Location	Depth	Init. Prod.
Marland	2	SW SE SW 19-23-3 W	5040-5045	7M

Grady County

Company	Well No.	Location	Depth	Init. Prod.
Meridian	1	C S½ SE 25-4-8 W	2151-2263	6M

Hughes County

Company	Well No.	Location	Depth	Init. Prod.
Harris-Hays	1	C SW SW 18-9-10 E	T.D. 3347	Dry
Yarnell Drlg	1	SWc NE 15-9-10 E	T.D. 2827	Dry
Westheimer-Daube	10	NW SW SE 19-5-8 E	T.D. 4355	Dry

Jefferson County

Company	Well No.	Location	Depth	Init. Prod.
Gypsy et al	1	SWc NE SE 2-7-7 W	T.D. 1940	Dry

Kiowa County

Company	Well No.	Location	Depth	Init. Prod.
Boring	1	SEc NW SE NE 22-7-17 W	T.D. 2350	Dry
Cummings et al	2	SEc NE SE SW 18-6-16 W	T.D. 495	Dry
Ruhl	1	NWc NE SE 19-6-16 W	T.D. 720	Dry

Muskogee County

Company	Well No.	Location	Depth	Init. Prod.
Bryan	3	C NW SW 3-15-15 E	T.D. 1673	Dry
Beu-Hill	1	SEc NW SE 9-15-15 E	T.D. 1801	Dry
Traders	1	CWL NE NW 29-15-16 E	T.D. 1283	Dry
Slusher	1	CNL NW SW 20-15-20 E	T.D. 775	Dry
Bryan	5	CWL SE NE 8-15-15 E	1620-1629	OWD 20
Rose	10	SEc NE NE NE 30-15-16 E	1207-1216	225

Okfuskee County

Company	Well No.	Location	Depth	Init. Prod.
Minnehoma	1	NE NW SE 31-11-11 E	3030-3034	185
Magnolia	1	NWc NE 25-11-10 E	T.D. 3225	Dry
Barnsdall	1	NEc SW 29-12-7 E	T.D. 4855	Dry

Oklahoma County

Company	Well No.	Location	Depth	Init. Prod.
Mid-Kans	2	C NW NE 24-11-3 W	6371-6449	6735

Okmulgee County

Company	Well No.	Location	Depth	Init. Prod.
Morgan	1	SEc SW 12-11-13 E	1229-1259	.5M
Mechlin-Berlin	8	CEL SE NE 14-14-14 E	1065-1080	30

Osage County

Company	Well No.	Location	Depth	Init. Prod.
Mid-Continent	1	NWc SE 34-20-10 E	2199-2215	15
Moore Est. et al	2	SW NW NE 16-21-9 E	2290-2326	8 OWD
Silurian	55	SW NE NW 17-23-12 E	1847-1542	50
Peters-Prod. & Ref.	2	SW SE NW 11-26-8 E	1785-1798	7
Peters et al	11	NE SW NW 17-27-6 E	2923-2976	10
Peters-Prod. & Refs.	2	NWc NE 27-27-11 E	1636-1655	55
Wrightsman	1	SEc NW 13-26-7 E	T.D. 2828	Dry

Pawnee County

Company	Well No.	Location	Depth	Init. Prod.
Byrne	4	NE NW NW 31-21-9 E	1097-1134	10

Pontotoc County

Company	Well No.	Location	Depth	Init. Prod.
Empire	1	SW SE NW 19-5-5 E	2362-2382	640
Homaokla	3	C N½ SE 1-4-7 E	2027-2037	2M
LaSalle	1	NWc SE 28-5-5 E	T.D. 2471	Dry

Pottawatomie County

Company	Well No.	Location	Depth	Init. Prod.
Simms	1	SWc 17-6-4 E	T.D. 4123	Dry
Simms-Slick	1	SEc 18-6-4 E	T.D. 4115	Dry
Independent	1	SEc NW NW 20-6-4 E	T.D. 3975	Dry
Mid-Continent	1	NW SW SW 20-6-4 E	T.D. 2821	Dry
Slick	3	NWc SW 20-6-4 E	T.D. 4108	Dry
Slick	4	NE SW NW 20-6-4 E	T.D. 3940	Dry
Gypsy	2	NWc NE 31-7-5 E	T.D. 4434	Dry
McCullouch	1	NW SE SW 28-6-4 E	T.D. 4091	Dry
Slick et al	3	SWc SE NW NW 20-6-4 E	3762-3765	45
Indep.-Twin State	1	NE SW SE 19-6-4 E	3798-3840	254
Magnolia	2	SWc NW 17-7-4 E	4175-4183	600
Gypsy	1	NWc SE 17-7-4 E	4123-4146	475
Independent	2	NWc 1-7-4 E	3930-4088	2230
Gypsy	4	NWc NE 26-7-4 E	4207-4214	100
Martin-Erwin et al	2	NEc 2-7-4 E	3792-3803	3255
Wilcox	5	SE NW SE 8-8-5 E	4067-4078	180

Seminole County

Company	Well No.	Location	Depth	Init. Prod.
Mid-Cont	8	SE SW NE 5-7-7 E	4239-4248	5000
Sinclair	1	NW NE SE 5-7-7 E	4403-4413	3810
Sinclair	3	SWc SE 7-6-8 E	4187-4200	2950
Texas	10	NE SE SE 18-5-8 E	2520-2598	605
Sinclair	2	NEc SE 23-5-7 E	4168-4193	620
Sinclair	1	NW NE SW 17-9-7 E	3528-3530	525
Sinclair	4	SE NW SE 7-6-8 E	4192-4207	1360
Gypsy	1	NWc SE 18-9-7 E	4247-4260	350
Magnolia	2	SE SW NE 18-9-6 E	4359-4370	6400
Magnolia	3	SE NW NE 11-8-5 E	4301-4304	666
Gypsy	15	NE SW SW 23-7-6 E	T.D. 3108	25M
Gypsy	16	SE NW SW 23-7-6 E	T.D. 3127	32M
Pure	4	NE NW SW 24-7-6 E	3145-3149	51M
Empire	5	SEc NE 27-7-6 E	3099-3115	100
Cosden	3	SE NW SW 13-9-5 E	4219-4225	1825
Magnolia	4	SW NE SW 13-9-5 E	4211-4217	700
Papoose	1	SEc NW 32-10-6 E	4012-4055	560
Gypsy-Devonian	1	NW NE SE 18-9-6 E	4271-4278	5525
Magnolia	3	SWc NE 18-9-6 E	4380-4392	5888
Marland-Sinclair	1	NW NE SW 18-9-7 E	4300-4310	657
Sinclair	1	SWc NE 18-9-7 E	4240-4255	1605
Gypsy	1	SE SW SW 2-8-5 E	4256-4265	1660
Gypsy	12	NW NE SW 23-7-6 E	3110-3148	1090
Independent	9	SW SE NW 23-7-6 E	3264-3274	1110
Texas	5	SE SW NW 23-7-6 E	3147-3182	800
Independent	2	NW NE NW 26-7-6 E	3142-3217	20M
Shaffer	1	NEc 33-7-6 E	T.D. 2810	55
Empire	2	NEc SE 19-7-8 E	2835-2849	2.5M
Carter	1	SWc NW 20-7-8 E	2868-2879	2.5M
Sinclair	2	NE NW NW 18-5-8 E	2453-2475	50 OWD
Harris et al	1	NWc NE 8-8-8 E	T.D. 4098	Dry
I. T. I. O. et al	1	SW NE SE 3-5-7 E	T.D. 4778	Dry
McCullouch et al	1	SEc NW 16-10-6 E	T.D. 4618	Dry
Empire-Marland	3	NW SE SW 13-9-5 E	T.D. 4206	Dry
Cosden	2	NWc SW 13-9-5 E	T.D. 4265	Dry
Magnolia	1	SEc 28-7-6 E	T.D. 3360	Dry
McCullouch	1	NWc 11-6-5 E	T.D. 4552	Dry
Texas	1	SEc 15-5-7 E	T.D. 4616	Dry
Sunray-Cal Cul	2	SW NW SW 24-5-7 E	T.D. 4450	Dry

Stephens County

Company	Well No.	Location	Depth	Init. Prod.
Four-in-one	1	SWc SE SW 19-1-8 W	T.D. 2301	Dry
Pace et al	5	NE NW NE 13-2-8 W	1462-1470	50
Ven-Mex & Mid-Cont.	1	C SW NW 3-2-8 W	1647-1648	12

Wagoner County

Company	Well No.	Location	Depth	Init. Prod.
Martin et al	2	NEc SE SW 26-18-15 E	988-1003	20
Perry-Hartman	1	CEL SW SE 19-17-16 E	T.D. 1090	Dry
Frigel-Barth	3	NEc SW 29-18-15 E	T.D. 1248	Dry

KANSAS

Butler County

Company	Well No.	Location	Depth	Init. Prod.
Maxwell	1	SWc NE 31-24-4 E	2691-2704	25
Leonard	6	NE SW SE 29-26-5 E	2706-2718	25
Empire	7	SE NW NE 27-27-5 E	2728-2769	310
Rosenthal et al	4	SE NE NW 10-27-6 E	3015-3112	75
Garden	4	CWL NE NW 6-27-6 E	2736-2759	35

Chase County

Company	Well No.	Location	Depth	Init. Prod.
Selby	7	SEc NE 35-22-9 E	2454-2493	20

Cowley County

Company	Well No.	Location	Depth	Init. Prod.
Krow White	1	C SE SW 4-32-5 E	690-700	¼M
Marland et al	1	SWc NE 8-31-8 E	T.D. 3128	Dry
Foster et al	1	NWc 36-34-3 E	T.D. 2100	Dry

Greenwood County

Company	Well No.	Location	Depth	Init. Prod.
Phillips	1	SEc NE 9-22-10 E	T.D. 2465	Dry
Transcontinental	5	C NW NE 10-22-10 E	T.D. 2323	Dry
Empire	2	NE NW NE 22-22-12 E	1777-1793	45

Harvey County

Company	Well No.	Location	Depth	Init. Prod.
Patton et al	1	SE SW NE 18-24-2 E	T.D. 3506	Dry

Reno County

Company	Well No.	Location	Depth	Init. Prod.
Perry et al	1	NEc SE 30-22-5 W	T.D. 4072	Dry

Saline County

Company	Well No.	Location	Depth	Init. Prod.
Boyle et al	1	SWc SE 21-16-1 W	T.D. 3234	Dry

Sedgwick County

Company	Well No.	Location	Depth	Init. Prod.
Hartman-Skaer et al.	1	SEc SW 23-28-3 W	T.D. 4235	Dry
Brandenburg-Hinkle	1	NWc SW 31-25-1 E	T.D. 3475	Dry
Robertson	1	NE NW SW 29-25-1 E	T.D. 3635	Dry
Magnolia	1	NWc 36-28-2 W	T.D. 3890	Dry
Hartman-Skaer et al.	1	NW SW SE 21-28-1 E	T.D. 3540	Dry
Blankenship-Washoma	1	SWc NW 1-27-1 E	T.D. 3410	Dry
Shell	1	SEc NW SE SW 15-26-2 E	2922-2924	720
Plains	1	SEc NW SE SW 15-26-2 E	2926-2930	400
Bu Vi Bar et al	5	SWc 6-26-1 E	3460-3468	525
Shell	1	SWc NW 21-28-1 E	3081-3105	160
Dickey et al	1	SEc NE 20-28-1 E	3081-3100	250
Bu Vi Bar et al	1	SEc 1-26-1 W	3371-3378	950
Bu Vi Bar et al	2	SEc 12-26-1 W	3365-3370	18
Bu Vi Bar et al	5	NWc SE 1-26-1 W	3348-3355	1100
Patton-Wentz	1	NWc NE 6-26-2 E	3005-3010	190
Bu Vi Bar et al	7	NWc 7-26-1 E	3357-3365	760
Bu Vi Bar et al	1	NEc SW SW NE 7-26-1 E	3374-3377	95
Marland	1	SW SE NW 16-25-1 E	3009-3012	200

Sumner County

Company	Well No.	Location	Depth	Init. Prod.
Marland	2	SE NE NE 27-34-2 E	3465-3518	100
Champlin	2	NE NW SW 9-30-2 W	3033-3045	OWD 70
De Forrest	3	C NW NE 35-30-2 W	T.D. 3105	Dry

Completions in North Louisiana and South Arkansas, Week Ended July 18, 1929

Louisiana

Caddo Parish

Company	Well	Location	Depth	Yield
Walter Ray et al	Hunter No. 1	8-19-14	2502	Dry-aband.

De Soto Parish

Company	Well	Location	Depth	Yield
D. Thomason	Nagors No. 1	6-12-11	1406	Salt water, abd.

Ouachita Parish

Company	Well	Location	Depth	Yield
Ladel Oil Properties	Fee No. 48	31-20-5E	2596	12½M gas
Pipes and Mark	Burke No. 1	7-18-5E	2236	1½M gas

LaSalle Parish

Company	Well	Location	Depth	Yield
O. W. Clark Tr	Tullos No. 7	23-10-1E	1505	50 bbls.

Union Parish

Company	Well	Location	Depth	Yield
Imperial Oil and Gas Prod. Co.	Imperial-Fee No. 1	30-20-4E	2134	8⅝M gas

Richland Parish

Company	Well	Location	Depth	Yield
Hope Production	Standard Oil Co. No. 1	28-17-6E	2450	51¼M gas
Palmer Corp	Hardwick No. 1	16-17-6E	2449	49½M gas
Palmer Corp	Whitten No. 1	21-17-6E	2486	½M gas

Winn Parish

Company	Well	Location	Depth	Yield
Gardner-Horter and Brown	Harper No. 12	26-10-1E	1497	200 bbls.

Arkansas

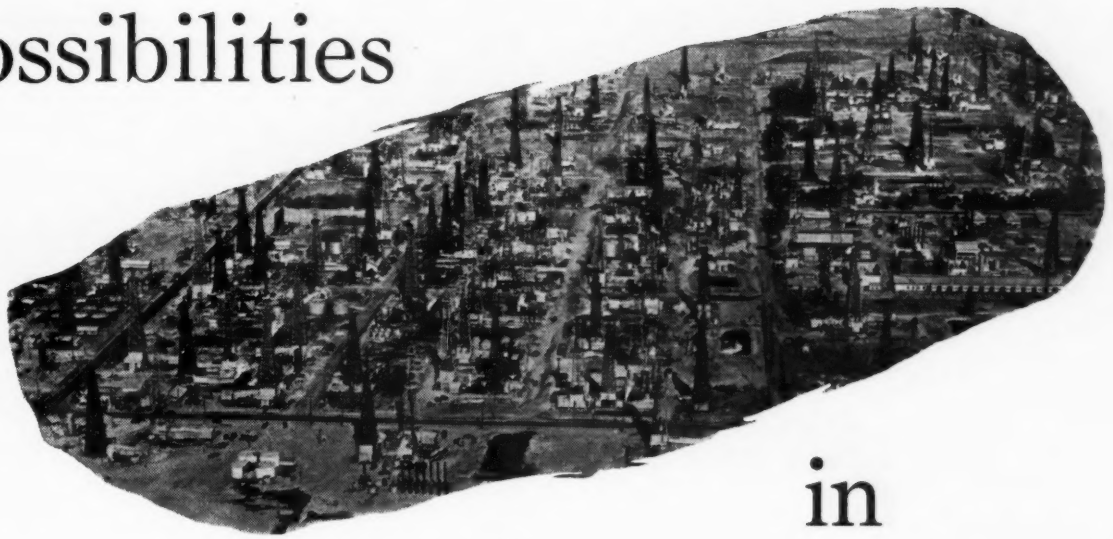
Ouachita Parish

Company	Well	Location	Depth	Yield
Charles McDonald	Wilson No. 3	25-15-18	2786	2000 bbls.

Union County

Company	Well	Location	Depth	Yield
Kinnebrew et al	Williams No. 2	3-16-16	2378	50 bbls.

Deep Zone Possibilities



in Santa Fe Springs

By Rolla W. Walling*

THE present Deep Zone campaign in the Santa Fe Springs oil field of California gives promise of affecting the oil industry in other ways than by adding greatly to the present overproduction of crude.

Marked progress is being made in the manufacture of equipment to accomplish the necessary deep drilling to reach the new zones.

Excessively high temperatures, attained with depth, have created problems in water exclusion that will forcibly curtail production from the deep zones, until solved.

Crooked holes become a more important factor as greater depths are reached. Operators are resorting to definite programs to know what degree the hole is deviating from the vertical.

These are some of the conclusions brought out by Rolla W. Walling, assistant petroleum engineer for the Associated Oil Co., in a report on the new deep zones at Santa Fe Springs. The principal portion of the report is published herewith.

* * *

THE possibility of deep zone production at Santa Fe Springs was not considered seriously until deep drilling at Signal Hill forcibly drew attention to the fact that more than three producing zones did exist in some California oil fields. The larger companies were reluctant to deliberately open up new zones because of growing overproduction. Drilling agreements had been in force for some time in the Dominguez and Inglewood fields whereby the productive penetration was limited.

In January, 1928, the Wilshire Oil Co. started deepening its Buckbee Well No. 1-A. This well had been producing from the Bell zone and was presumably to be deepened into the Meyer zone. Persistent rumors indicated that the well was being carried below the old productive depth of the Meyer. The other operators set themselves to the task of checking up on the reports, and in spite of the great secrecy maintained by the Wilshire, obtained a fairly accurate knowledge of all the details. Buckbee No. 1-A was completed on July 26, 1928, at an estimated 2600-barrel per day rate. Bottom of the hole was at 5890 feet with the 5-inch casing cemented at 5650 feet.

That the other operators were ready to act upon their advance information is attested to by the fact that on Aug. 7 there were 77 locations and rigs, five wells were drilling and six wells deepening, redrilling or preparing to deepen. At the time of the second completion in the deep zone (October 30, 1928) there were 236 active projects and nine idle wells.

The following tabulation gives the status of the field as of July 2, 1929, and will give some idea of the activity after nearly a year of intensive drilling.

Active locations and rigs	15
Idle rigs	13
Active drilling wells	164
Idle drilling wells	35
Redrilling and deepening wells	33
Idle redrilling wells	4
Producing wells (from deep zones only)	142

*Assistant petroleum engineer, Associated Oil Co., Santa Fe Springs.

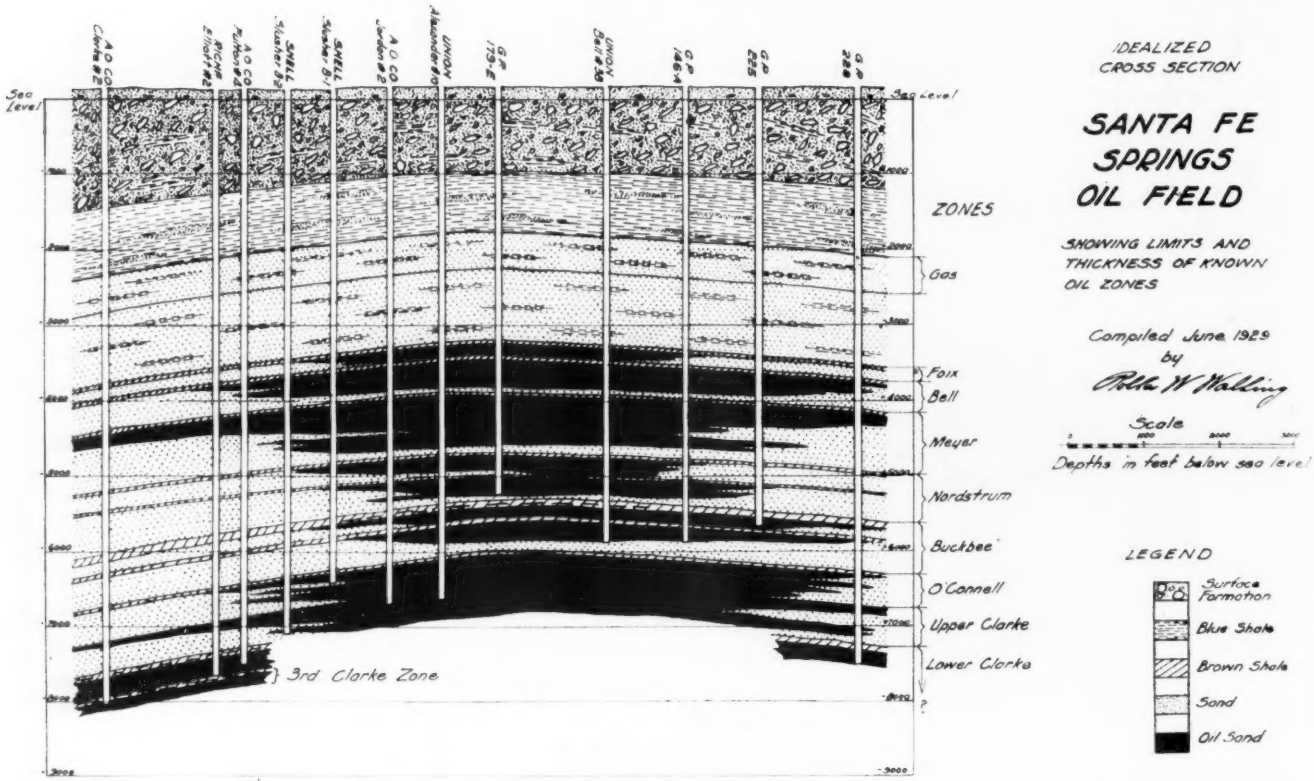
Stratigraphy of the Deep Zones

The sequence and comparative thickness of the various zones of the Santa Fe Springs field is shown in the idealized cross-section. (Plate 1.)

As commonly accepted, the deep zones include all producing horizons below the Meyer zone. The Gas, Foix, Bell and Meyer zones were developed during the first activity in the field.

At the present time five additional zones have been added and are all included in the deep zones. Following is a list of the new zones in the order of their depth: Nordstrom, Buckbee, O'Connell, Upper Clarke, Lower Clarke.

The Upper Clarke and the Lower Clarke are distinct zones and not a subdivision of one zone as is implied by the name. Both zones were discovered in Associated Oil Co.-Clarke



Well No. 2 and, as has been customary, were named after the discovery well.

Nordstrom Zone

The Nordstrom zone is so called because of its having first been produced from by George F. Getty-Nordstrom No. 17. This well was formerly a Foix zone producer. Deepening operations began in the early part of June, 1928. Upon reaching a depth of 4400 feet the well began losing circulating mud to the now low pressure sands in the Meyer zone.

Several attempts were made to regain circulation by pumping cement into the hole. This expedient furnished temporary relief but as new hole was made and additional low pressure sands were opened up, circulation was again lost. Drilling was continued until a depth of 5409 feet was reached.

On Sept. 16, 1928, cement had just been pumped into the hole to restore circulation and the drill-pipe was being pulled when the well blew out. The blow-out occurred as a result of mud loss reducing the fluid column in the hole. Thirty minutes after blowing out the well caught fire and burned until extinguished on Nov. 3, 1928.

A tunnel was constructed leading downward and encountering the casing underground. The casing was tapped and vacuum lines attached through which part of the oil and gas was bled off. The pressure at the surface was reduced sufficiently by this means to allow the fire to be extinguished and the well brought under control. Since being placed on production Nordstrom No. 17 has produced in excess of 750,000 barrels of oil.

The character and thickness of the Nordstrom zone was first shown by Star Petroleum Well No. 2. Shortly after Nordstrom No. 17 blew out and it was realized that the latter well had not attained sufficient depth to have encountered the Buckbee zone, Star Petroleum began continuous coring in the lower Meyer zone.

Gray sand and streaks of oil sand was cored down to 4941 feet at which depth a 20-foot body of hard brown shale was penetrated. Beneath this shale good oil sands were found. Coring was continued to 5702 feet or 100 feet into the productive measures of the Buckbee zone. This proved the new zone to have a thickness of about 600 feet and to consist of alternate oil sands and shale.

Star Petroleum Well No. 2 was completed Nov. 11, 1928, after plugging back from 5702 to 5535 or the top of the Buckbee shale. Initial production was 2250 barrels per day of 35.4 degree Baume oil and 35,000 cubic feet of gas.

The top of the Nordstrom zone lies about 850 feet below the top of the Meyer zone. Water shut-off is obtained in a 20 to 40-foot body of hard brown shale. The next 200 feet consists of alternate oil sands and shale with streaks of oil sand. Below this horizon, known as the upper Nordstrom, lies a 30-foot body of brown shale which marks the top of the lower Nordstrom. The lower Nordstrom consists of alternate oil sands and shale with streaks of oil sand in the shale.

The productive area of the Nordstrom is very small, being slightly less than the original area of the Bell zone. Early initial productions averaged from 4000 to 6000 barrels per day with one initial reported at 8140 barrels. Union Oil Co.-Bell Well No. 33 was completed Jan. 9, 1929, for 8140 barrels of 33.8 degree Baume oil, cutting 4.1 per cent. The flow pressure was 525 pounds and the casing pressure 1025 pounds. The gas production was reported as 21 thousand cubic feet.

Present initial productions are comparatively low and it is probable that few, if any, more wells will be completed in this zone. Edge wells are rapidly showing the effects of water encroachment, many having already died. As the wells die they are deepened through the Buckbee and to the O'Connell zone. Many producing wells are being killed and deepened to the O'Connell. There are very few wells now producing from this zone that do not show the effects of water entry.

On July 2, 1929, 27 wells produced 23,338 barrels of net oil from the Nordstrom zone; an average of 864 barrels per well per day. The oil-gas ratio, as of June 18, 1929, was 1.39 thousand cubic feet per barrel of fluid produced. The high average production is accounted for by the fact that poor wells are killed and deepened, leaving only the good producers that are structurally well located.

Buckbee Zone

The initial production from the Buckbee zone came from Wilshe-Buckbee Well No. 1-A, discovery well of the "Deep" zones. The well was completed on July 26, 1928, for an initial production variously estimated at from 2600 to 4000 barrels per day.

Bottom of the hole was 5980 feet and the 5-inch casing was cemented at 5650 feet.

Two wells completed on top of the structure demonstrated the maximum productive penetration possible in the Buckbee zone. These wells were Union Oil Co.-Bell Well No. 38 and General Petroleum-S.F.S. No. 146-A.

Union Oil Co.-Bell No. 38 found the top of the Buckbee shale at 5490 feet and cemented 8⅝-inch casing at 5528 feet. The hole was drilled and cored to 6020 feet where gray sand was encountered. The well was completed Feb. 21, 1929, at a 3678-barrel rate of 31.7 degree Baume oil cutting 19.6 per cent. Gas production was 26 thousand cubic feet. Flow pressure was 400 pounds and casing pressure 900 pounds. The large cut was undoubtedly from the gray sand cored in the bottom of the hole.

General Petroleum No. 146-A located the top of the Buckbee shale at 5505 feet and cemented 8⅝-inch casing at 5540 feet. The hole was carried to 6038 feet. Poor oil sand and gray sand were cored from 6022 to 6038. This gave an effective penetration of about 432 feet. The hole was bridged back with cement to 5925 feet and completed on Feb. 28, 1929, at a 5112 barrel per day rate of 32.9 degree Baume oil cutting 3.6 per cent. Gas production was four thousand cubic feet. Flow pressure was 165 pounds and casing pressure 520 pounds.

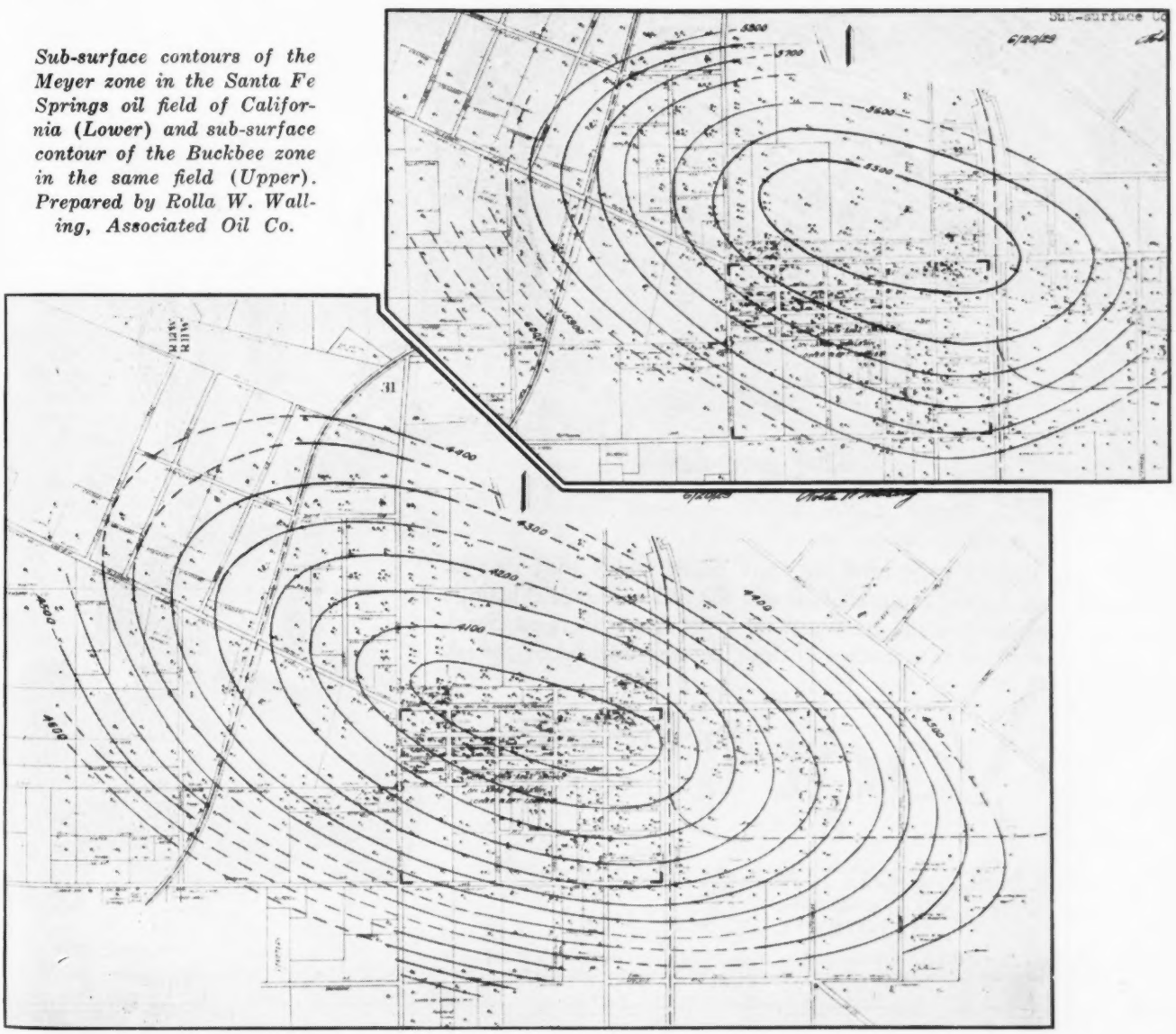
The interval between the top of the Buckbee zone and the top of the Meyer zone is variable. Beginning at the western edge of the field the interval gradually lessens as the eastern edge is neared. At Standard Oil Co.-Jordan No. 7 the interval is 1530 feet, at Union Oil Co.-Bell No. 30 the interval is 1490 feet; and at General Petroleum-Well No. 225 the interval is 1370 feet.

This makes a decrease of 160 feet in the Meyer-Buckbee interval within these limits and from the west to the east. In the upper zones the intervals between zones have been very consistent. In the deep zones the intervals have been uniform and consistent below the Buckbee. For this reason, intervals in the deep zones are generally referred to the top of the Buckbee zone.

The Buckbee shale has an average thickness of from 90 to 100 feet. The upper 25 to 40 feet is logged as hard brown shale with thin streaks of oil sand and often streaks of gray sand near the top. The lower 50 to 60 feet is hard brown shale with thin streaks of oil sand near the bottom. It is in this lower shale that water strings are cemented.

The next 130 to 150 feet is oil sand with streaks of shale and this portion is known as the upper Buckbee. The top of the lower Buckbee is marked by a 50 to 60-foot body of brown sandy shale with streaks of oil sand. Below this, on top of the structure, are about 240 feet of productive oil sands and shale with streaks of oil sand. The remaining 180 to 200 feet have been logged as alternate gray sands, shales, sandy shale and oil sands.

The areal extent of the productive portion of the Buckbee closely approximates that of the Bell zone in its early period of production. As in



Sub-surface contours of the Meyer zone in the Santa Fe Springs oil field of California (Lower) and sub-surface contour of the Buckbee zone in the same field (Upper). Prepared by Rolla W. Walling, Associated Oil Co.

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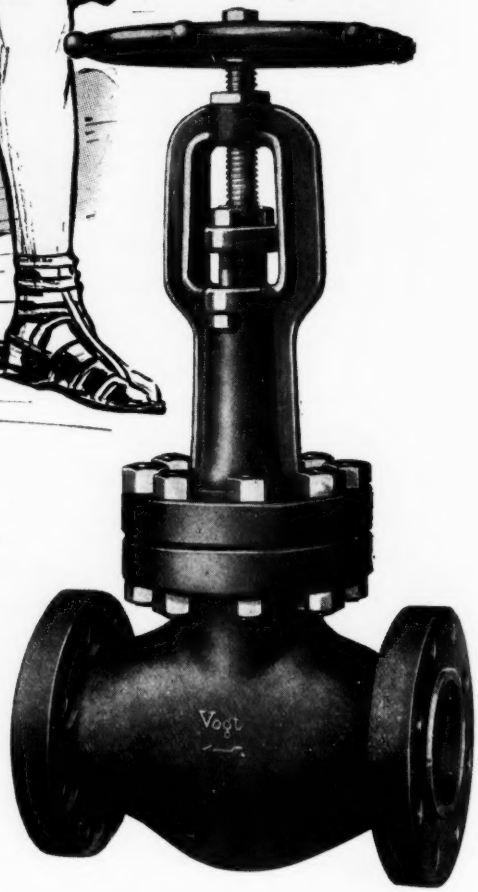

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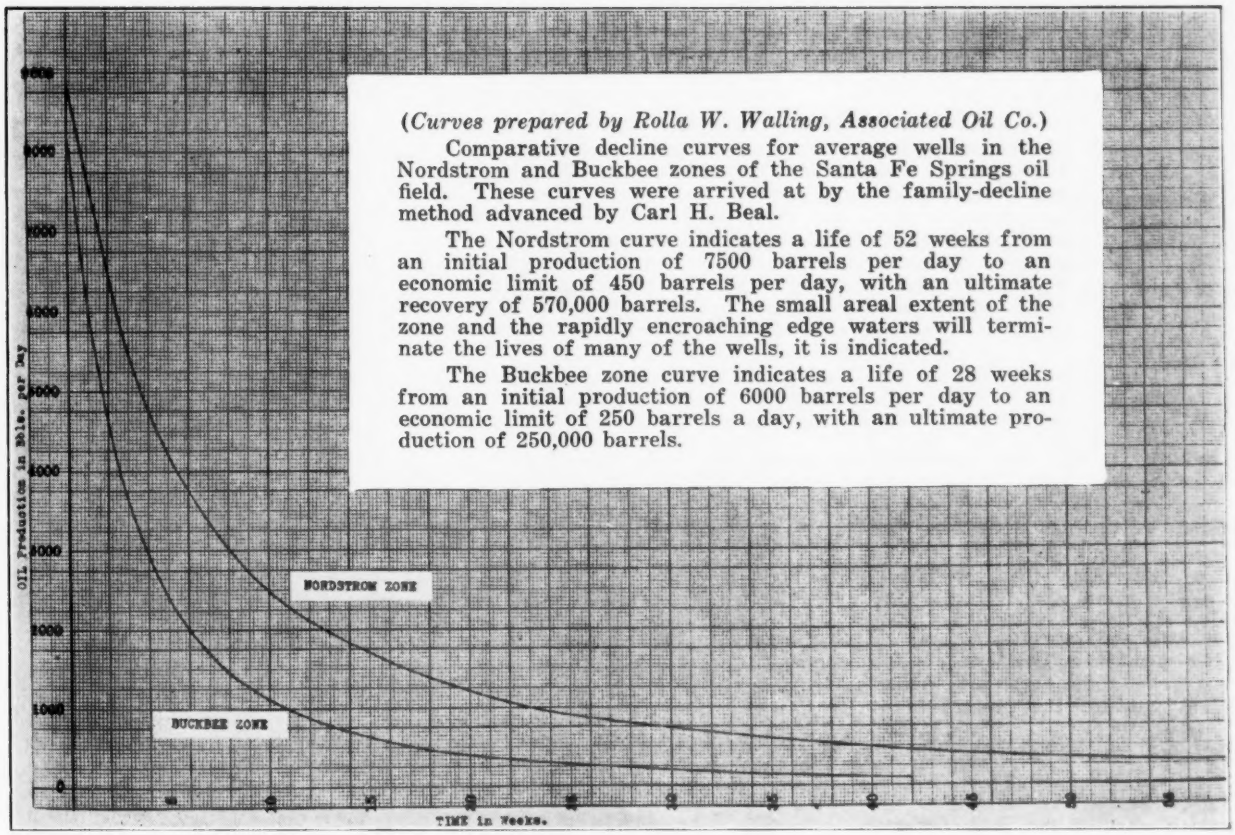


(Curves prepared by Rolla W. Walling, Associated Oil Co.)

Comparative decline curves for average wells in the Nordstrom and Buckbee zones of the Santa Fe Springs oil field. These curves were arrived at by the family-decline method advanced by Carl H. Beal.

The Nordstrom curve indicates a life of 52 weeks from an initial production of 7500 barrels per day to an economic limit of 450 barrels per day, with an ultimate recovery of 570,000 barrels. The small areal extent of the zone and the rapidly encroaching edge waters will terminate the lives of many of the wells, it is indicated.

The Buckbee zone curve indicates a life of 28 weeks from an initial production of 6000 barrels per day to an economic limit of 250 barrels a day, with an ultimate production of 250,000 barrels.

the overlying Nordstrom, rapidly encroaching edge water has killed many of the outlying producers in the Buckbee zone.

The production of Buckbee wells has declined much more rapidly than production from Nordstrom wells. Many edge producers have been killed and, together with the wells that have died, have been or are being deepened into the O'Connell zone.

On July 2, 1929, 48 wells produced 28,048 net barrels of oil from the Buckbee zone; an average of 584 barrels per day per well. The oil-gas ratio, as of June 18, 1929, was 2.9 thousand cubic feet per barrel of fluid produced.

The Nordstrom and Buckbee zones have ceased to be a serious factor in the total production of the deep zones. Both zones are rapidly declining, their place being taken by the present flush production from the O'Connell zone.

O'Connell Zone

The O'Connell zone was first produced by George F. Getty-O'Connell Well No. 19. This well died in the Buckbee zone and was deepened to 6610 feet. The 4¾-inch casing was landed at 6610 feet and cemented through perforations at 6360 feet. The well was completed on Feb. 16, 1929, for an initial gross rate of 3387 barrels per day of 33.8 degree Baume oil cutting 60 per cent. The cut consisted of free water that separated easily from the oil.

Pale oil sands had been cored in the upper part of the zone, and below the point of water shut-off, and it was thought that these sands were the source of the water. The poor showing made by Getty-O'Connell No. 19 held in check the deepening campaign that was anticipated in the event of its securing good clean production.

California Eastern-Santa Fe No. 2, structurally lower than Getty-O'Connell No. 19, cored alternate oil sands, shale and gray sand in the upper part of the O'Connell zone shortly after the latter well was placed on production. This fact strengthened the opinion that the upper portion of the O'Connell zone carried water. California Eastern-Santa Fe No. 2 cored good oil sands and shale below the upper O'Connell and into the Upper Clarke zone.

The completion of Universal Oil Co.-Blanchard No. 7, in the O'Connell zone, proved definitely that the source of water in Getty-O'Connell No. 19 was from above the point of water shut-off and not from the upper part of the zone. Blanchard No. 7 secured a water shut-off at 6366 feet, stratigraphically the same depth as the attempted shut-off in O'Connell No. 19.

Blanchard No. 7 included 346 feet of zone with the bottom of the hole at 6712 feet. The well was completed March 22, 1929, at a 8160-barrel per day rate of 33.6 degree Baume oil cutting 2.0 per cent. Flow pressure was 350 pounds and casing pressure 600 pounds. Gas production was five thousand cubic feet. The completion of this well precipitated another campaign of deepening and drilling, the effect of which is being felt in the large production from this zone at the present time.

The top of the O'Connell shale lies from 720 feet to 725 feet below the top of the Buckbee shale. Water shut-off is obtained in the lower 30 to 40 feet of a 60-foot brown shale body. The upper and extreme lower portions of this shale carry streaks of oil sand. The next 140 to 150 feet consists of alternate hard and soft oil sands with streaks of shale. The above portion is known as the upper O'Connell. A 12 to 15-foot hard brown shale marks the top of the lower O'Connell and is followed by about 240 feet of oil sands with streaks of shale.

All of the O'Connell is productive within the 5600-foot sub-surface Buckbee contour. (See Plate III). Within this limit a few of the O'Connell wells have safely included from 60 to 90 feet of the underlying Upper Clarke zone. Beyond this limit bottom water is present in the O'Connell zone.

Where all of the O'Connell zone is taken, initial productions have averaged from 5000 to 6000 barrels with a few completions reported at about 8000 barrels. Several late completions, that have included a portion of the Upper Clarke zone, have been for from 10,000 to 12,000 barrels per day.

On July 2, 1929, 60 wells produced 206,483 barrels of net oil from the O'Connell zone; an average of 3441 barrels per well per day. The gas-

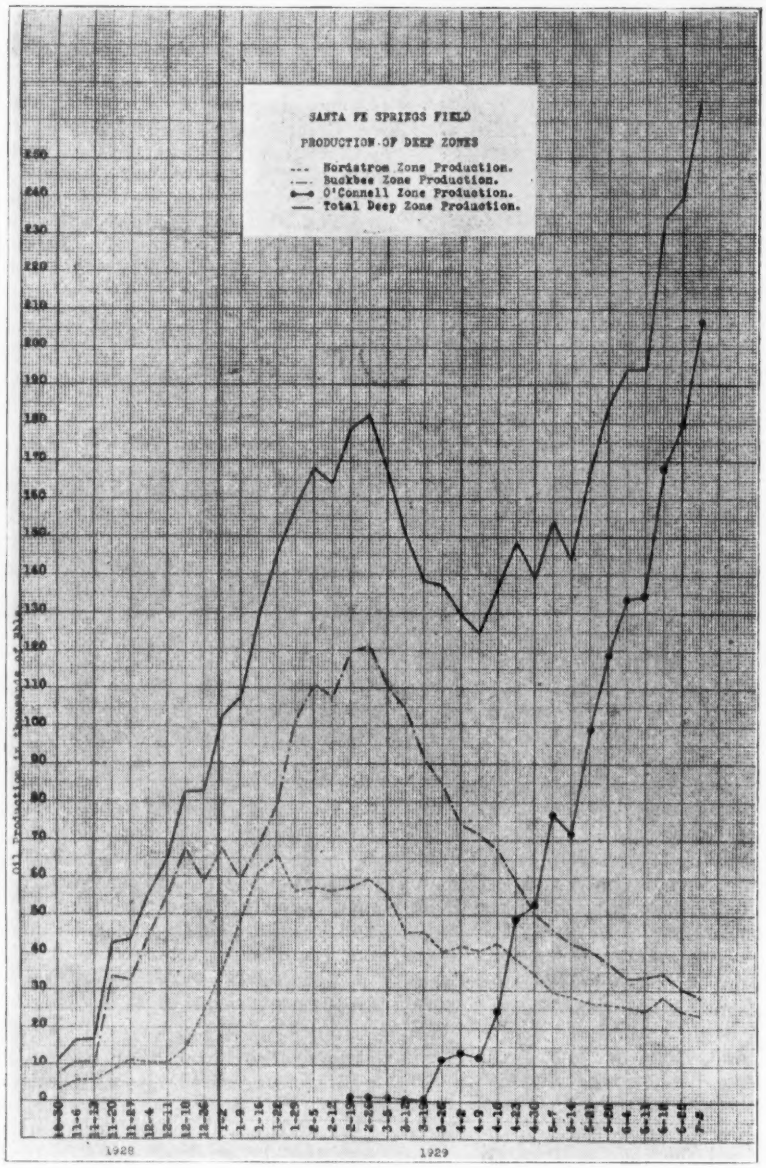
oil ratio, as of June 18, 1929, was 1.39 thousand cubic feet per barrel of fluid produced.

Upper Clarke Zone

The Upper Clarke zone was first cored by Associated Oil Co.-Clarke Well No. 2, an old Meyer zone producer in the extreme western part of the field. This well began deepening in October, 1928. Failure to find the Nordstrom, Buckbee or O'Connell zones did not halt the Associated Oil Co.'s effort to find deep production in this well. The top of the Upper Clarke shale was cored at 7312 feet and the top of the oil sand at 7322 feet. Gray sand was cored at 7370 feet after having penetrated 48 feet of alternate 1 and 2-foot streaks of oil sand and hard brown shale. This small amount of zone was not considered worthy of a test at that time and prospecting was carried ahead to determine the possibilities of deeper production.

Subsequent development has shown that the productive portion of the Upper Clarke zone does not thicken appreciably toward the center of the field. (See Plate I.) From Associated-Clarke No. 2 to Richfield-Elliott No. 2, 200 feet up structure, 35 feet is gained in thickness. In the eastern part of the field, General Petroleum No. 288 cored only 98 feet of productive formation. This well is 370 feet higher structurally than Associated-Clarke No. 2. This represents a gain in thickness of 50 feet for a rise of 370 feet on structure. General Petroleum No. 218, near the top of the structure, found the top of the Upper Clarke zone at 6730 feet and cored good oil sands and shale to 7008 feet. Lean looking oil sands were cored from 7037 to 7040 feet where gray sand was found. The gray sand had a good odor but gave a pale cut with ether. Opinion differs as to whether this sand carries water or not. The well was completed after bridging the hole back to 6940 feet with cement. The productive measures taken included 200 feet of the Upper Clarke zone, and all of the O'Connell zone.

The top of the Upper Clarke shale lies about 480 feet below the top of the O'Connell shale or 1200 feet below the top of the Buckbee shale. An 8 to 10-foot shale body overlies the Upper Clarke zone. This is followed by alternate oil sands and brown shale. Near the top of the structure, it is probable that 270 feet of productive formation may be taken in this zone. There has been no attempt, as yet, to penetrate the Upper Clarke zone on the top of the structure. Wells structurally well located have drilled into this zone only a short distance and have included it with their O'Connell zone production. Numerous oil sands were cored by General Petroleum No. 228 in the lower part of the Upper Clarke and it is probable that other producing horizons will be found in this zone higher on structure.



Production from the Upper Clarke zone has been quite limited. Only two wells have succeeded in securing a water shut-off over this zone and in producing directly from it. In conjunction with the thin shale body, high temperatures below 7000 feet are thought to have contributed to the almost universal failure to obtain a water shut-off below this depth. The Associated Oil Co. ran thermometers into Richfield-Elliott No. 2 and found the temperature at 7115 feet to be 195 degrees F. A similar observation was made by the Associated Oil Co. in its Clarke No. 2. The temperature at 7802 feet in the Lower Clarke zone, was found to be 206 degrees F.

Rohde-Meyer Well No. 2 was completed in the Upper Clarke zone on April 13, 1929, at a 2112-barrel per day rate of 33.5 degree Baume oil cutting 0.5 per cent. Flow pressure was 450 pounds and casing pressure 1060 pounds. The oil tested 35 per cent gasoline. On April 30, 1929, production had declined to 1156 barrels per day with a cut of 0.2 per cent. Gas production was 1.3 thousand cubic feet per barrel of fluid produced.

Shell Oil Co.-Slusher Well No. 16 was completed in the Upper Clarke zone on July 6, 1929, at a 2000-barrel per day rate cutting 4.5 per cent. Bottom of the hole is at 6889 feet and the 8⅝-inch casing is cemented at 6839 feet.

It is very probable that the greater part of the production to be secured from the Upper Clarke zone will come from within the 5600-foot subsurface Buckbee contour, and will be produced in conjunction with the O'Connell zone.

Lower Clarke Zone

The Lower Clarke zone should not be confused with the Upper Clarke zone as it is a distinct zone. The

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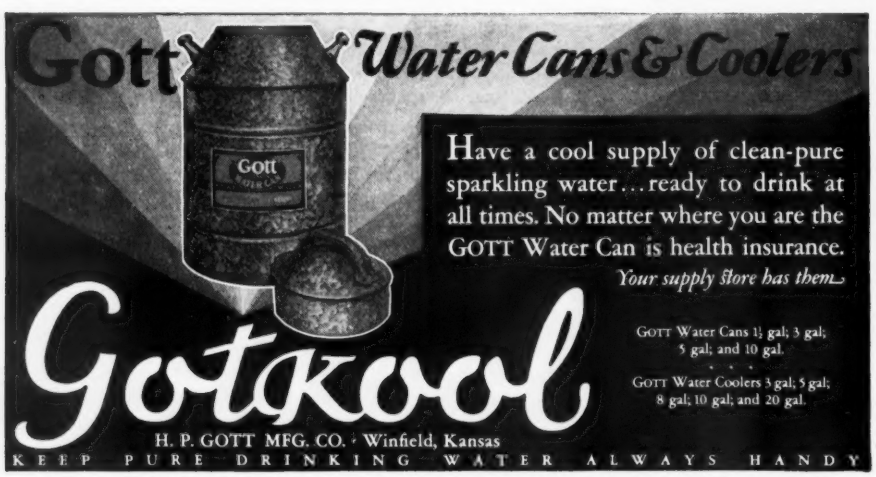
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Lower Clarke zone was first cored in Associated Oil Co.-Clarke No. 2, discovery well of the Upper Clarke zone. The top of the Lower Clarke shale was cored at 7774 feet and the top of the oil sand at 7802 feet.

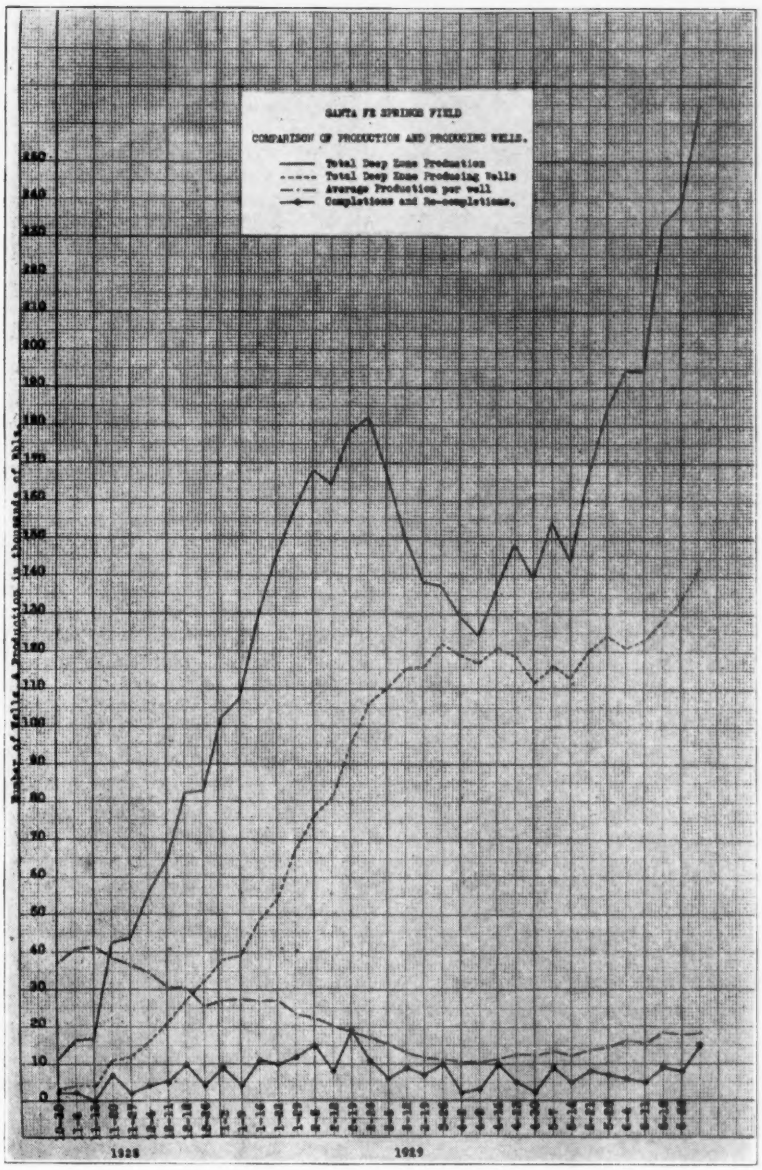
This zone was first produced by General Petroleum No. 228. The 4¾-inch casing was cemented at 7480 feet and the well completed May 17, 1929, with bottom at 7674 feet. Initial production was 650 barrels of 34.0 degree Baume oil cutting 1.5 per cent. The small production was probably due to the low gas volume in this upper portion of the zone.

Associated-Clarke No. 2 had very little evidence of gas while coring this portion of the zone, or during the subsequent attempts to secure production. Inability to secure a water shut-off delayed the Associated for over a month. The decision was finally reached to core ahead. At 8142 feet good oil and gas showed on the ditch. While circulating, the gas threw the returning fluid up through the rotary table. Coring was continued to 8165 feet when the drill pipe twisted off. After fishing unsuccessfully for several days, it was decided to swab the well and test the possibility of securing a flow. On June 6, 1929, the well was swabbed to 1200 feet when the fluid followed the swab out of the hole and shot over the crown block. The first 24-hour gauge showed a gross production of 1050 barrels cutting 56 per cent. This showing by Associated-Clarke No. 2 is remarkable when it is taken into consideration that a water shut-off had not been obtained and that the drill pipe fills the hole to within 40 feet of the 5-inch shoe.

On June 6, 1929, Oscar Howard-Hathaway Well No. 6 first encountered this gas while drilling at about 7925 feet. This was the same day that Associated-Clarke No. 2 was placed on production from this lower and high pressure horizon in the Lower Clarke zone. Hathaway No. 6 cored ahead to 8006 feet where, due to the large amount of gas, it was thought advisable to stop drilling. The 4¾-inch casing was cemented at 7905 feet and the well was completed on a production test June 22, 1929. Initial production was 4200 barrels gross, cutting 35 per cent. The source of the water is undoubtedly from above the point of shut-off.

The lower portion of the Lower Clarke zone is capped by a thick shale body and, due to its high gas pressure and volume, as compared to the upper portion, should be considered as a distinct zone. In order to clearly designate this zone, it will hereafter be referred to as the 3d Clarke zone.

The discovery of the 3d Clarke zone has greatly encouraged many of the operators having leases outside of the productive area of the other deep zones. Indications are



that the 3d Clarke zone will figure prominently in the future production of Santa Fe Springs. Due to the great depth and time required to drill, completions will not be as numerous as in the zones above. Most of the earlier completions will lie outside of the productive limits of the O'Connell zone. The high production of the O'Connell zone and the present casing requirements within its productive limits, precludes the probability of fully exploiting the Lower Clarke or the 3d Clarke zones in this area for considerable time.

The 100 feet of formation overlying the top of the Lower Clarke sand is predominently hard, dark brown shale with streaks of black carbonaceous shale and micaceous shale. The upper 60 to 75 feet of this shale carries streaks of gray sand in Associated-Clarke No. 2, but these streaks are logged as oil sand in wells higher on the structure. The remaining 25 to 40 feet is dark brown shale with streaks of carbonaceous shale and a few thin lenses of oil sand. This last is considered the Lower Clarke shale. The top of the Lower Clarke shale is from 460 to 470 feet below the top of the Upper Clarke shale. The next 200 to 220 feet is medium fine oil sand and shale with thin streaks of oil sand in the shale. This portion of the Lower Clarke zone does not show indications of prolific production.

The next 110 feet is predominately shale. A comparison of core records from various wells indicates the presence of numerous streaks of oil sand throughout. Below this shale body lies the productive measures of the 3d Clarke zone. One hundred and four feet of oil sands and shale have been cored in this zone and are now being produced in Oscar Howard-Hathaway No. 6.

Many interesting casing programs have developed out of the necessity to protect the many new zones that have been discovered in the Santa Fe Springs field. The depth of some of these zones has necessitated the setting of record lengths of large casing in order that sufficiently large holes may be maintained into the producing sands. Sixteen-inch, 18-inch and 20-inch stove-pipe casings are set at from 900 to 1200 feet and at the top of the blue shale. The first water shut-off is required over the Meyer zone. While the Meyer zone is now in a semi-depleted condition, many good pumping wells are still producing in excess of 100 and 200 barrels per day, and it is necessary to protect this zone. Ten-inch, 11¾-inch and 13⅜-inch casings are used for the Meyer string.

Eight and five-eighths inch casing has been used extensively for the water shut-off over the Nordstrom zone.

Within the productive limits of the Buckbee zone, a water shut off is required above it. This is accomplished with 8⅝-inch or 9-inch casing. Many of the earlier wells to start drilling for the Buckbee zone did not make allowances for possible deeper production and have 6⅝-inch casing cemented over this zone.

Within the productive limits of the O'Connell, a water shut-off is required over this zone. Seven-inch, 6⅝-inch and 4¾-inch casing have been used for this purpose.

Wells lying outside of the productive limits of the Nordstrom, Buckbee and O'Connell zones are, in general, not handicapped by a multiple casing program and have been able to carry holes of large dimension to great depths. These wells prospected ahead after setting the Meyer string and the size casing set over the Upper or Lower Clarke zones has been largely a matter of choice.

Associated-Clarke No. 2 carried 7⅞-inch hole to 7922 feet and was able to set 5-inch O.D. casing at 7802 feet over the Lower Clarke. Associated-Dallugge No. 7 failed to secure production from the Buckbee zone after cementing 9-inch casing over this zone at 5880 feet. Seven and five-eighths inch hole reamed out to 7⅞-inches, was carried to 7850 feet and 7785 feet of 7-inch O.D. casing, including 1984 feet of 6⅝-inch on bottom, was cemented over the Lower Clarke. Associated-Fulton No. 4 was compelled to obtain a water shut-off over the Upper Clarke zone because of the prospective nature of this zone at that time. Seven thousand thirty-five feet of 9-inch No. 45 casing was cemented at the top of Upper Clarke, and 7600 feet of 7-inch No. 30 casing, including 678 feet of 6⅝-inch No. 26 casing on bottom, was cemented over the Lower Clarke.

The larger producing wells from the O'Connell zone have used 3-inch, 4¾-inch and 5-inch O.D. flow strings. Where 4¾-inch casing has been cemented over the O'Connell, many of the wells are producing from open hole and have used neither oil string nor tubing.

Production Decline Curves

Plate VIII shows the comparative decline for average wells in the Nord-

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strom and Buckbee zones. These curves were arrived at by the family-decline method advanced by Beal.*

The family-decline curves were constructed by using daily net production at weekly intervals. The median, or gathering line, thus determined was transferred to logarithmic paper where it was corrected and projected for the determination of future decline. The curves are for a flowing decline. All production figures were discarded where and after a well had been placed on compressor.

The Nordstrom curve indicates a life of 52 weeks from an initial production of 7500 barrels per day to an economic limit of 450 barrels per day, with an ultimate recovery of 570,000 barrels. Some of the later completions from the Nordstrom zone have been for an initial of from 1000 to 1200 barrels per day. Wells with this initial should have a life of 19 weeks with an ultimate recovery of 100,000 barrels to an economic limit of 450 barrels per day, and a life of 40 weeks to an economic limit of 250 barrels per day, with an ultimate recovery of 150,000 barrels.

The above economic limits have been taken because of conditions peculiar to the Nordstrom zone. The small areal extent of the zone and the rapidly encroaching edge waters will terminate the lives of many of the wells. Wells structurally well located will probably be produced to an economic limit of 250 barrels per day. If the mechanical condition of the well permits, it will then be killed and deepened to the more prolific production of the O'Connell zone. Wells less favorably located will probably be killed by encroaching water before reaching a much lower production than 450 barrels per day.

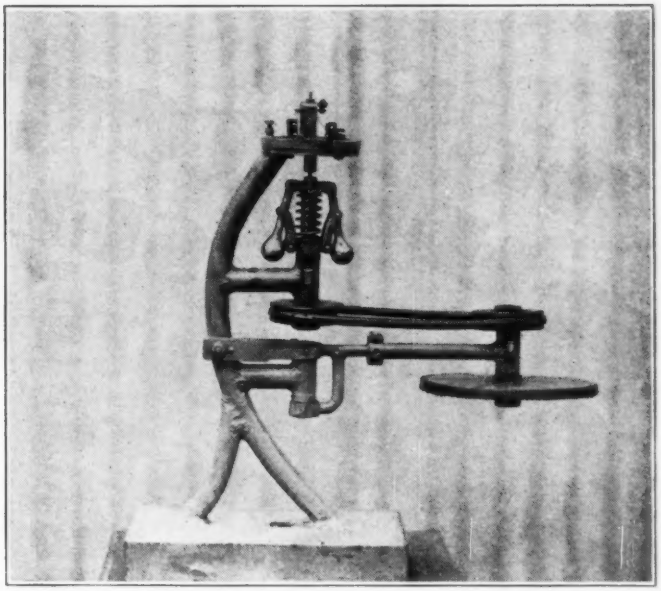
The Buckbee zone curve indicates a life of 28 weeks from an initial production of 6000 barrels per day to an economic limit of 250 barrels per day, with an ultimate production of 250,000 barrels. From an initial production of 6000 barrels per day, to an economic limit of 100 barrels per day, a life of 49 weeks is indicated with an ultimate production of 270,000 barrels.

A tentative curve was constructed for the O'Connell zone. Due to the relatively short time that the most of the wells from this zone have been producing, sufficient data was lacking for the construction of a representative curve. The tentative curve showed a much slower decline in the O'Connell zone than in either the Nordstrom or the Buckbee. From an initial production of 6000 barrels per day to an economic limit of 100 barrels per day, a life of 80 weeks is indicated with an ultimate recovery of 565,000 barrels.

*Beal, Carl H.—The Decline and Ultimate Production of Oil Wells, with Notes on the Valuation of Oil Properties. Petroleum Technology 51, Bulletin 177.

Beware Parking Your Old Car *on* Johnson's Lease

By John Power
N. P. N. STAFF WRITER



The home-made device which rings a warning bell in the pumpers house when the power engine goes down

BURBANK, Okla.

NIGHT. . The stars look down on the Burbank field, and see that all is well on Skelly Oil Co.'s Daisy Ware lease. The big gas engine in the power chugs steadily away, the rod lines creak in the night air, the pumping jacks bob slowly, monotonously up and down. Bill Johnson, pumper, sleeps peacefully in his house, the deep, untroubled sleep of pumpers the oil fields over.

The engine coughs and dies. Instantly a bell rings in Pumper Johnson's house. Instantly and insistently, refusing to be quiet until turned off at the power house, the scene of the trouble.

Pumper Johnson crawls out of bed, dons pants and shoes, and trudges down to the power house to investigate. If he finds the trouble too large to be repaired by himself, at once, the gas is turned off, and things generally put right so that no harm can follow the shutting down of the power until daylight and a chance to make the needed repairs. If the scene is enacted during the winter months, the engine is drained to prevent the water freezing and bursting the water jacket.

The device which rings the bell is Pumper Johnson's own invention. Operated electrically, the sounding of the warning bell is controlled by the speed of the idler in the power house. Constructed principally of parts of discarded material, the device is entirely home-made.

A circular plate, made from a piece of old belting, and faced top and bottom with tin to keep it rigid, is held in a horizontal position so that the edge of the plate revolves against the idler. A short shaft through the center of the plate actuates a small pulley. The plate is held against the idler by a spring attached to an adjustable arm projecting from an upright mounted on the idler frame.

A shorter arm, parallel to the arm supporting the plate, is welded at right angles to a shaft on which is mounted a spring and fly ball governor. A pulley at the base of the shaft is belted to the pulley at the top of the shaft through the plate which runs against the idler, and is actuated by it. The shaft on which the governor is mounted is hollow, and contains a smaller shaft to which the cross arm of the governor is welded.

At the top of the main supporting shaft, which is curved, a metal plate is welded in line with the governor shaft. This top plate has a hole through the center through which protrudes the small liner in the governor shaft. One of a pair of platinum contact points, resurrected from a Model T Ford, is on the end of the liner shaft. The other point is mounted above the liner shaft on a small curved arm.

In operation, the main plate runs against the idler at such a speed that the fly ball governors are kept extended. Short arms, from the governor arms to the base of the spring on the governor shaft, keep the spring compressed, and the platinum points from making contact.

When the idler slows down or stops for any reason, the governor balls drop, releasing the spring, which in turn forces the liner shaft up, and by bringing the platinum points in contact, closing the circuit. A bell is rung in the pumper's house, giving him instant warning of trouble in the power.

On the idler side of the horizontal shaft supporting the main plate, a spring such as keeps screen doors closed, is used to keep the plate tight against the idler at all times. When it is desired to disconnect the warning device a latch on the other side of the supporting arm holds the plate away from the idler.

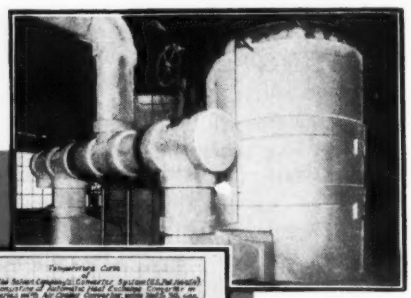
The fly ball governors are made from the balls from two ball and seat assemblies welded to short metal arms. The hollow shaft supporting the governors is what is left of the shell of a steering post of a Chevrolet car. The spring once did duty in an O'Bannon working barrel. The base plate was once part of a pumping jack. And the platinum points through which the electric contact is made once served to invigorate a Model T Ford of uncertain vintage.

Owners of second hand cars, having any appearance of being ready for the junk heap bring them on Bill Johnson's lease at their own risk.

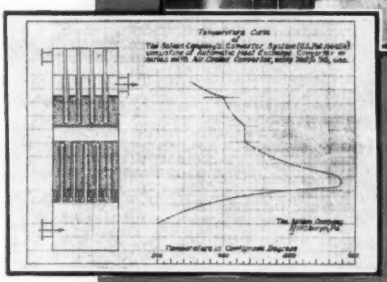
Coming Next Week

"Development Practice in the Kettleman Hills Field," by Lester C. Uren, Professor of Petroleum Engineering, University of California. Appearing exclusively in NATIONAL PETROLEUM NEWS.

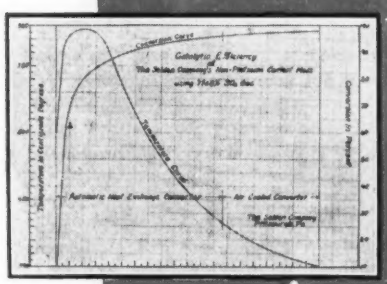
THE SELDEN COMPANY'S NEW CONTACT SULPHURIC ACID PROCESS CUTS PRODUCTION COSTS *not cents but* DOLLARS PER TON



The Selden Company's 40 ton Converters.



Temperature Curve of The Selden Company's Compound Heat Exchange Converter System. [U. S. Pat., 1,660,511]



Catalytic Efficiency of The Selden Company's Non-Platinum Contact Mass using 7 to 8% SO_2 Gas.

For the first time in Sulphuric Acid History, the production of contact acid has been placed upon an automatically controlled basis, making it possible to operate an entire plant from a single control point. Hitherto existing limitations of converter size and capacity have been eliminated and a new standard of conversion efficiency [98% or better] established.

This revolutionary development, unquestionably the most important contribution to the art in a quarter century, makes available tremendous economies in operation, so sensational, in fact, that no producer of sulphuric acid can afford to ignore their significance.

The Selden Company's New Compound Heat Exchange Converter System and New Powerful Non-Platinum Catalyst [stabilized for long life] are responsible for these extraordinary results. The charts at the left indicate how perfectly the automatic co-ordination of reaction speed and best possible equilibrium of the reaction is carried on throughout the entire converter system.

The Chemical Construction Company have already placed in operation and have under construction plants using this new process having an annual capacity of 400,000 tons H_2SO_4 equivalent.

The New **SELDEN** *Process*

The New Selden Compound Automatic Heat Exchange Converter System

The New Selden Non-Platinum Catalyst - Stabilized for Long Life

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Whether the proposition of producing your own sulphuric acid has ever been considered or not write for this booklet. Get all the facts about this new, cost-cutting process, today.

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Visiting Around the Refineries

By Paul Truesdell

National Petroleum News

IT LOOKS as if cheaper sulfuric acid for the refiner may be on the way. A. O. Jaeger of the Selden Co. of Pittsburgh, in the July issue of *Industrial and Engineering Chemistry*, describes a new contact process for the manufacture of sulfuric acid that is said to greatly reduce the cost. Such an improvement seems almost certain to bring down the cost of the product to the consumer.

While sulfuric acid is losing out somewhat as an agent for treating cracked gasoline, it is still in very wide use, as it has been for years, for treating lubricating oils.

If the acid manufacturers can bring the price of acid down low enough, it is likely to give a new stimulus to refinery technologists to develop satisfactory methods for treating their products with sulfuric acid instead of turning to some other treating reagent.

The acid industry can afford to treat the refining industry pretty kindly, it would seem, since the latter is the second or third industry in quantity of acid consumed.

Release by the Gulf Refining Co. of information as to the process by which it makes anhydrous aluminum chloride at its Port Arthur refinery has aroused considerable speculation.

This information was given in a paper recently presented by Dr. A. M. McAfee, developer of the process, and published in the July 17 issue of NATIONAL PETROLEUM NEWS.

For years aluminum chloride was used by the Gulf in the manufacture of gasoline. One of its chief virtues was that it made a beautiful pure paraffin product uncontaminated by olefins and other unsaturated compounds. But times change.

Paraffin gasoline is no longer the hero but is the villain. Unsaturation is what makes the high compression engine run without knocking.

While there has been no official statement from the Gulf, it is generally believed that aluminum chloride is no longer used as a catalyst for cracking heavy oil into gasoline but is used in the treatment of lubricating oils for which purpose it is known to be excellent.

It may find wide application for lube oil treating by other refiners since the Gulf is offering it for sale at 5 cents a pound.

* * *

REFINERS making Motor Fuel V, the new grade of volatile gasoline made available for government purchase by the latest action of the Federal Specifications Board, are likely to bring about a market for a special grade of natural gasoline, in the opinion of one natural gasoline manufacturer.

This man believes that to make Motor Fuel V, refiners generally will cut for a 400 endpoint gasoline and bring up the intermediates to meet specifications by admixture of a stabilized natural gasoline of appropriate volatility.

The distillation range prescribed for Motor Fuel V in the government specifications follows: No initial; 10 per cent point not more than 149 F. nor less than 122 F., provided that for each per cent distillation loss less than 4 per cent, obtained in the A. S. T. M. distillation, the minimum 10 per cent temperature requirement shall be lowered 5.4 degrees F. No 20 per cent point; 50 per cent point not more than 257 F.; 90 per cent point not more than 356 F.; end point not more than 401 F.

* * *

SOME refiners and other companies manufacturing lubricating greases have recently adopted the policy of straining the grease before it is finally packed in containers, to remove possible lime specks that might remain in it. It is said that trouble sometimes occurs in using grease in pressure guns unless the lime specks are all removed. Most of the pressure grease guns are equipped with very fine wire screens and if there is any solid matter in the grease, no matter how finely divided, it is said such matter will tend to clog the screens. Oceco is one company that has developed a sort of filter press for removing solid matter from grease.

* * *

JAMES H. WESTCOTT, author of "Oil, Its Conservation and Waste," which appeared last year, has recently returned from Venezuela and the Dutch West Indies, where he made a survey of refining conditions on the islands of Aruba and Curacao and the oil producing situation in Venezuela, he states.

"Luckily," he says, "there appear to be no anti-trust laws in Venezuela to prevent proper co-operation among the producing companies. Conditions there seem to be well in hand for 1929."

* * *

CONGRATULATIONS to the White Star Refining Co. The $3,000,000 refinery built by that company at Detroit has begun operations, according to newspaper reports. The plant was built in about 7 or 8 months, starting from the bare ground. It has a crude capacity of 5000 barrels a day and Dubbs cracking units.

The contract for the plant was executed by the Arthur G. McKee Co. of Cleveland.

* * *

WONDER how far refiners will eventually go with this low temperature chilling stuff? One refrigerating engineer tells me that his company has been asked by a refiner to quote on a plant to chill oil down to 65 below zero.

This of course is lubricating stock to permit the complete removal of wax. It is possible that going to such low temperature as that mentioned may give an oil of unexpectedly different qualities, even compared with oils that have been chilled only to 30 or 40 below zero F.

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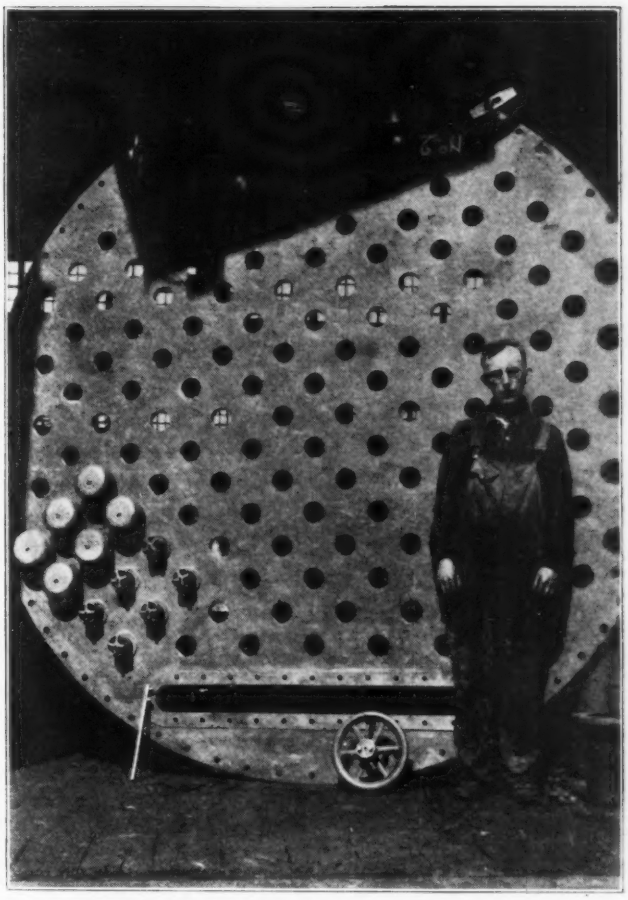
By Paul Truesdell
N. P. N. STAFF WRITER



Oceco cast semi-steel bubble tray used by Standard Oil Co. of Ohio. Some of the chimneys are in place and some of the caps. The small wheel leaning against the tray is the wrench used for screwing in the chimneys. The long slot at the bottom of the plate is the downflow opening and the corresponding depression at the top is the well into which the down spout from the tray above discharges, the liquid in the well making a seal

CLEVELAND, July 18

A TYPE of home made bubble tower for which relatively low first cost, low maintenance cost and high efficiency are claimed, has been developed by the Standard Oil Co. of Ohio and the Oil Conservation Engineering Co. during the past two years.

A number of the towers were installed first on crude still batteries in the Cleveland and Toledo refineries of the company when these plants were remodelled a couple of years ago. They proved so satisfactory that the same type of towers were installed in the company's newest plant at Covington, Ky., which was recently rebuilt and put into operation. The Covington plant was recently described in this paper.

In fact, it seems that the company has practically standardized on this tower. It is used not only on crude distillation units but also on cracking stills. Two Tube and Tank units just installed at the Cleveland refinery are being equipped with it, as were the two cracking units previously built.

One factor which helped the development of the home made towers was the possession by the Standard of a large number of pressure still shells which were retired from active service when the Burton cracking process was discarded at the Cleveland and Toledo plants and the Tube and Tank process was substituted.

The other was the production by the Oil Conservation Engineering Co. of Cleveland of a special type of bubble tray, chimney and bubble cap which were suitable for the purpose of converting an old Burton still into a fractionating tower. The pressure stills, 10 by 30 feet in size, were in excellent condition and good for years of service. Their utilization as fractionating towers made them worth far more to the company than they would be to the junk man.

One of the chief contributions of the Oil Conservation Engineering Co. was in developing a method of casting the bubble trays or plates in one piece to fit the tower.

The special bubble tray used by the Standard is described by H. H. Fleming, vice-president and general manager of the Oil Conservation Engineering Co., as a semi-steel casting 10 feet in diameter and 1 inch thick. The plates are sold on a guarantee that they will not be more than ½-inch out of true in any direction.

This flatness, said to be unusual in a casting of such large diameter and so thin, is made possible according to Mr. Fleming, largely by the design and spacing of ribs on the underside of the plate. The material from which the plates are made is a special semi-steel designed for resistance to corrosion and warping. The plates weigh about 3000 pounds each.

Each plate has 134 three-and-a-half-inch holes and these holes are reamed and tapped to take threaded bubble cap chimneys of 2¾-inch inside diameter. The chimneys and caps are of cast iron and resemble the conventional design except that a bolt is cast rigid in the top of the chimney, at the junction of two cross-arms as shown in an accompanying sketch.

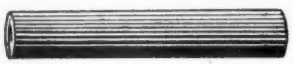
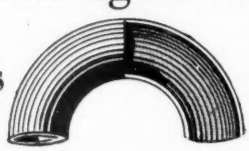
The bubble cap, which offers an area of 9 square inches for the passage of the vapors, has a hole in the middle which fits over the bolt projecting from the top of the chimney. The cap is set over the bolt and tightened in place by means of a brass acorn nut which is screwed down on the bolt.

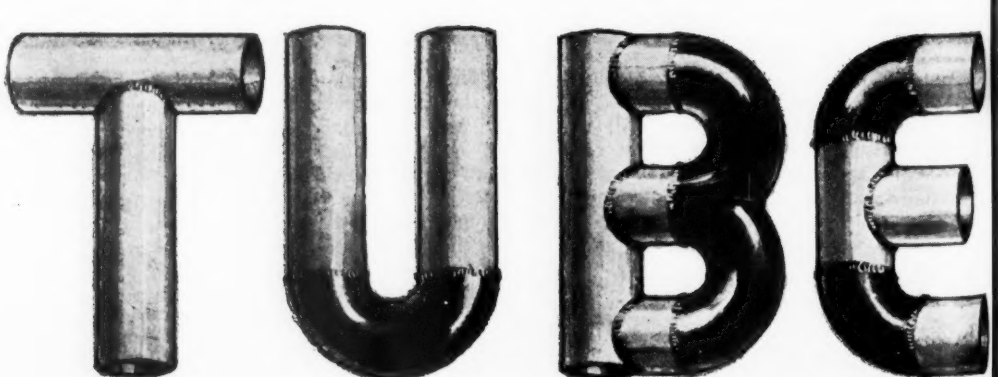
Downflow openings are staggered from plate to plate down the tower, so that the liquid will have to flow across each plate to find its way to the downflow. The weir for the downflow opening in the first plates made was cast separately and bolted onto the plate. Now, however, the practice is to cast the weir integral with the plate.

The towers are installed by Stand-

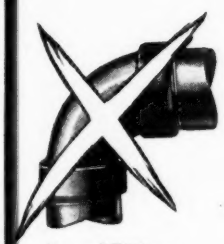
The first Stock F for W

WHAT THEY ARE

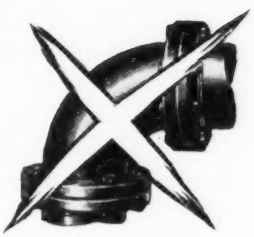
TUBE-TURNS are *not* pipe bends but fittings forged under heat and pressure from seamless steel tubing of a smaller size  They are formed on a radius of *one-and-one-half* pipe diameters There is no thinning of the outside wall no buckling of the inside wall no flattening of the pipe section and no variation in wall thickness  They are made in all standard and extra-heavy iron pipe sizes from 1 inch to 20 inches They are stocked as 90-degree elbows and 45-degree elbows and as 180-degree returns TUBE-TURNS of special sizes and of other materials and radii are made to order in quantity lots.



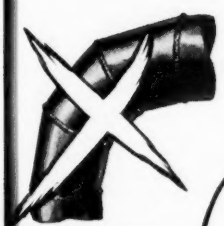
Fittings for Welded Piping



Screwed Fittings



Flanged Fittings



Mitre-Welded Turns

TUBE-TURNS

TUBE-TURNS *are fully protected by U. S. patents issued Sept. 21, 1920.*

BY providing a stock fitting for welded piping, TUBE-TURNS have simplified and improved this modern method of pipe fabrication and widened its field of usefulness.

Replacing cast fittings TUBE-TURNS provide greater strength and thus greater safety at high temperatures and pressures. Their resistance to line strains is equal to that of the pipe, yet they are lighter in weight than cast fittings.

Offering less resistance to flow than either screwed or flanged fittings, they increase pipe efficiency by reducing pressure drop.

Replacing built-up 3- and 4-weld mitred turns, they save erection time and labor costs since only *two welds straight across the pipe* are required for any change of direction.

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BUCK & STODDARD
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THE HEAT & POWER CORP.
424 E. Saratoga St. Baltimore, Md.

C. E. PHILLIPS & CO.
633-639 W. Larned St. Detroit, Mich.

ard refinery crews at the plants. It is the practice to put 10 plates in each tower.

The first step in converting a Burton still into a bubble tower is to cut off one end with a torch and close by welding all openings not desired. Ten manholes, 11 by 18 inches are cut in the side of the shell and fitted with boiler type manheads held in place by bolted yokes. Openings for inlet and outlet lines are cut in the shell and the appropriate fittings are welded in place. Supporting lugs are welded onto the sides.

Then the shell is hoisted by means of a crane into the position it is to occupy, as shown in the accompanying photograph. The towers are mounted on steel framing which is fireproofed with Johns Manville Three C cement. The trays are supported on 3 by 4-inch angle irons welded to the inside of the shell. The horizontal or shelf sides of the angle irons are drilled with holes the spacing of which corresponds to the spacing of the bolt holes around the edge of the tray.

When the shell is in position a welder goes into it to put in the bottom angle iron. Electric welding is used for the work, because it generates less heat in the limited space than acetylene welding and also avoids the formation of gas which, while not fatal, is disagreeable and slows up the work, the welder having frequently to come out for a breathing spell.

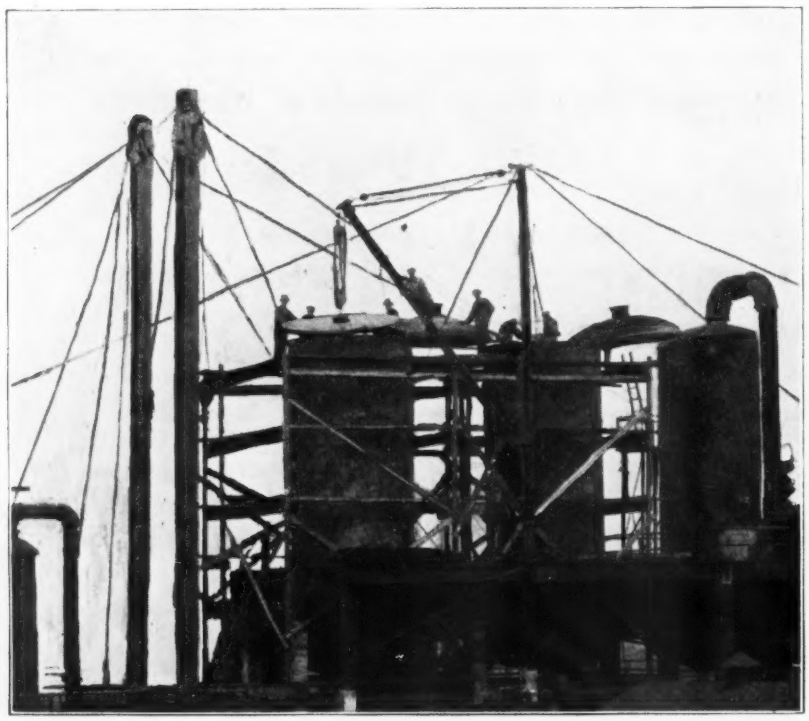
When the angle iron is in place an asbestos gasket is placed on it to seal the space between plate and iron and the first bubble plate is lowered into the tower in a flat position. It is then bolted in place, making an oil-tight joint.

Next, the chimneys are screwed into place on the tray. This is done very rapidly by means of a little wheel wrench shown in the photograph leaning against the plate. This wheel is fitted with two studs which engage the cross arms on top of the chimney.

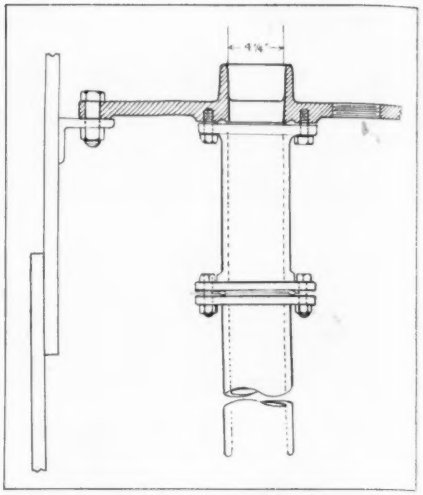
The chimney is set in place so that its threads engage those in the hole. Then the wheel is placed on top of the chimney, the studs taking hold, and given a spin. The weight and force of the wheel screw the chimney down rapidly till its collar rests flush on the plate.

When the chimneys are all in place the caps are put on, each held by the acorn nut which is easily screwed down by one man because the bolts are rigid. When the bottom tray is completed, the angle iron is welded on in the same manner for the next one above and the steps are repeated until all the plates, chimneys and caps are in place. Or plates may all be placed and chimneys and caps mounted later because of the 24-inch space between the plates and the easily installed caps.

When all the plates and fittings are in place, the end of the tower is welded on again, vapor and inlet lines are connected, insulation is applied and the job is completed.



Bubble towers under construction at the No. 1 works of the Standard Oil Co. of Ohio. One of the bubble trays is about to be lowered into the tower at the left, as described in accompanying article



Section of bubble tray, showing how it is bolted to angle iron. In center is the weir for the downflow, and 2-section down spout. Just at the right of the weir is shown one of the threaded openings for a chimney

Each down spout is made in two sections so as to permit its insertion through the manhole, as shown in another sketch. The top section is flanged and bolted onto the underside of the tray and the lower section is also flanged and bolted on the bottom end of the upper section.

Advantages claimed for this type of tray, chimney and cap are that they do not leak and that they can be easily cleaned. For cleaning it is only necessary for one man to go in on top of each plate and take off the caps. This is easily done because the brass nuts do not stick to the steel bolts. The chimneys do not have to be removed at all. The openings of the caps can be freed from coke or tar and replaced.

The trays being in one piece and tightly gasketed at the edge, there is no leakage from tray to tray to upset the trim of the tower and reduce its efficiency.

MR. FLEMING states that his company is also in position to make a different type of bubble cap chimney in which the bolt passes through the cap and down through the plate, but is equipped with a self-locking crab on the under side so that it will not turn and one man can remove the nut that holds the cap in place. For special corrosive conditions, chimneys and caps of other metals than cast iron are used, such as aluminum or its alloys, it is stated.

Where very low pressure drop through the tower is desired, such as in vacuum installations, the slots in the bubble caps are made with carefully rounded edges which considerably reduces resistance to vapor flow through the slots, Mr. Fleming says.

Catalysis Applied to the Conversion of Hydrocarbons

By Dr. Carl Krauch

Director I. G. Farbenindustrie
Aktiengesellschaft
Ludwigshafen am Rhein,
Germany

Find Secret of Combining Hydrogen and Carbon

THE accompanying article was presented as a paper before the Second International Conference on Bituminous Coal, in Pittsburgh last November.

It was undoubtedly read and studied by many chemists as an interesting contribution to the subject of catalysis but it is likely that not many refinery engineers and chemists regarded it at the time as the practical prophecy of a new method of manufacturing petroleum products which in a short time might have a profound effect on the entire refining industry.

This copyrighted article is republished now from the proceedings of the coal conference by special permission because of the new and lively interest in the subject that has grown out of the recent announcement of the Standard Oil Co. of New Jersey that its technologists have developed an actual commercial process for hydrogenating petroleum to make marketable products.

Some of the possibilities that seem to lie in the further development of the art of catalytic hydrogenation are foreshadowed by Dr. Krauch. Because of its great length the article will be published in three parts.

PART I

The laws of chemical equilibria and thermodynamics enable us to predict whether a reaction is possible or not. For instance, proceeding from a simple hydrocarbon such as methane, a large variety of other hydrocarbons may be obtained such as gasoline, petroleum, unsaturated hydrocarbons, and, by oxidation, alcohols, aldehydes, ketones, acids, and so on.

If what has thus been predicted had to be put into practice, difficulties would soon be found to arise from the fact that thermodynamics is not concerned with the velocity of chemical change, which implies that nothing is said about the conditions necessary for control of the direction and extent of reaction.

The industrial chemist is therefore obliged to concern himself not only with thermodynamical calculations but also with the considerations of how to control the velocity of reactions, and with their interpretation.

Why do molecules not get into the equilibrium predicted by thermodynamics in spite of the vast number of molecular collisions which condition the reactions? The reason is that nature has enclosed the reactivity inherent in the molecules like a nut in a shell; to set this reactivity free, we have to crack the shell and to crack it, of course, in the easiest possible way. In other words, the falling of free energy characteristic of all chemical change does not occur spontaneously but must be induced; in every process the reacting molecules have to be fed with energy to overcome the impediments resisting the course of chemical change.

Now, it has been found that the simplest representatives of hydrocarbons, such as methane, are especially hard nuts to crack; the energy of activation necessary to get them in the state of reactivity is very considerable. This implies that chemical changes of hydrocarbons proceeding in stages are extremely slow; practically they do not occur at all unless special means are applied. To show that this holds good in the view of kinetics would here lead too far.

The means by which to overcome the impediments referred to are, above all, the catalysts. In certain cases the introduction of electrical or radiating energy into the reaction system comes in question; namely in cases requiring an especially high introduction of energy, the thermic equilibrium of which is, accordingly, very unfavorable. Where catalysts offer little or no advantage, nothing remains to be done but to bring the molecules into the necessary high states of activation by the introduction of foreign free energy, that is, through impacts of electric particles as they occur in silent discharges, or through absorption of radiating energy—photochemically. Nature shows us these photochemical processes in a grandiose way in the assimilation of carbonic acid brought about by sunlight, the process upon the products of which we all live.

However, in the case of all such changes that can be carried through purely thermally at temperatures and pressures available for us—here belong most reactions of the hydrocarbons—the catalysts are of inestimable value in order to start reactions, to control them, and to obviate secondary and subsequent reactions that are possible but not desirable.

Before going more closely into the matter, I should like to say a few words about the notion we have formed of the peculiar effect of catalyst. If a gas-reaction is to take place without catalysts, the activating energy necessary to overcome the molecular impediments can be imparted to the molecules only through the mutual collisions due to thermal motion, the effect of what is generally aimed at, only certain bonds of the reacting molecules have to be loosened. If the energy is imparted by collisions, all degrees of freedom of the molecules—their translatory, rotary and oscillatory motions—unavoidably take up energy, thereby loosening bonds not intended to enter into reaction. Consequently, unnecessary consumption of energy takes place. To give an instance, in the mutual collisions of methane molecules in the gas-room, thermal energy is consumed to bring about velocities in the direction of the three dimensions of space, rotations around the three axes of the tetrahedral molecule, and vibrations of the H-atoms within the molecule, executed against the C-atoms as well as against each other. According to the stability of the molecules, these degrees of free-

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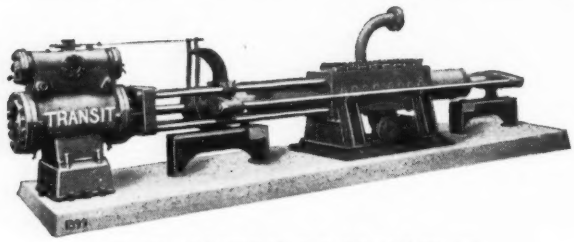

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dom of the rotatory and the vibratory energy become capable of taking up energy only above certain temperatures. Thus, in this mechanism of unspecific introduction of energy the molecules become activated in quite a variety of points whereas for a specific reaction generally one certain bond only need be loosened. These difficulties can be obviated since through the attachment of the molecules to the catalysts or, in terms of physics, through the oriented adsorption to which they are subject under the influence of the atomic fields of the catalysts, complexes are formed in which the controlled loosening of certain bonds is started. Only slight amounts of energy, varying according to the reaction in question, are then required to bring about a complete loosening of those bonds, a combination of the fragments, an insertion of other molecules, and so on. In terms of reaction kinetics, catalysts act in such a way that, together with the reacting molecules, they form attachment complexes which require slight activating energy. These attachment complexes in their turn can, with but slight activating energy, be converted into the desired reaction products.

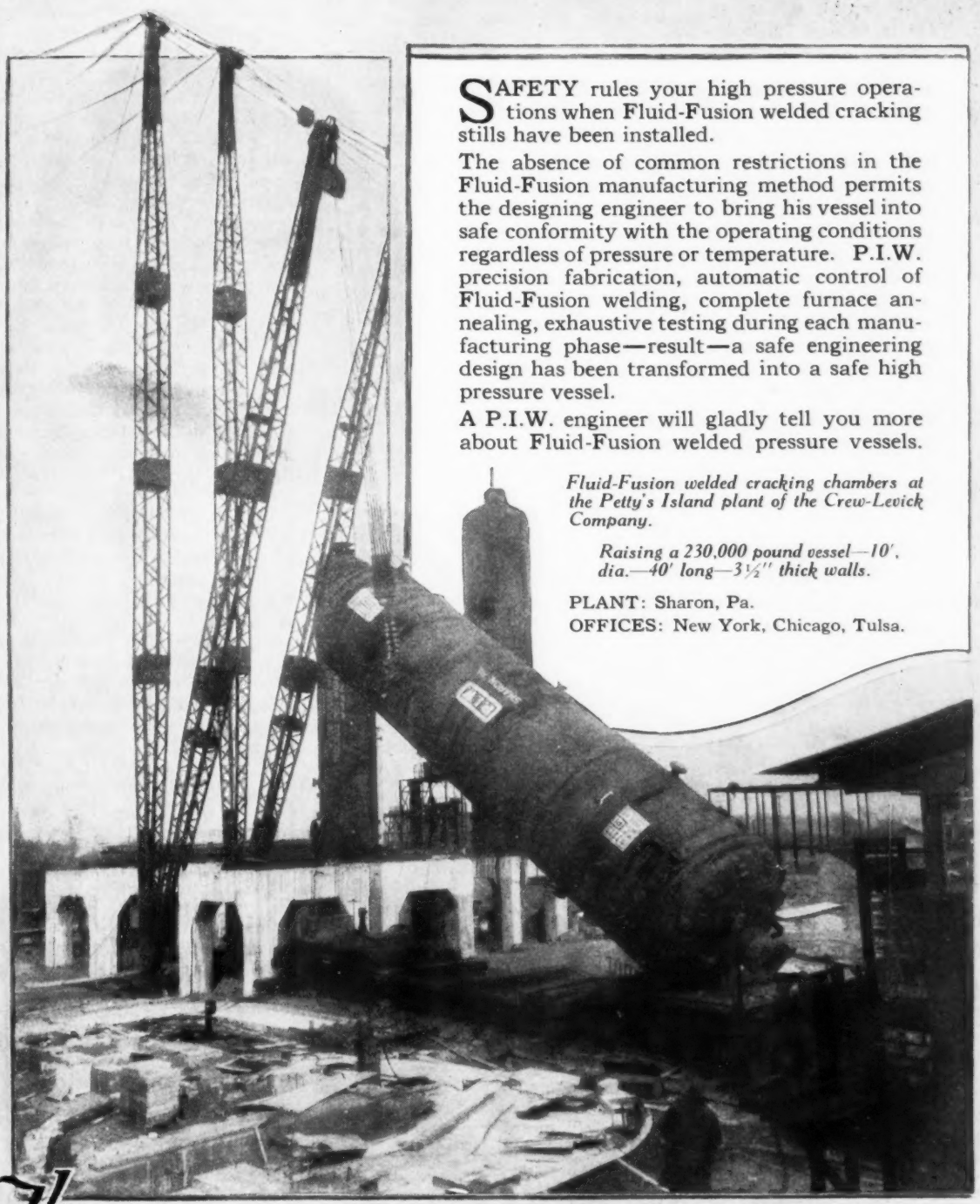
For the sake of completeness, it may be mentioned that the effect of the catalysts in conversion of hydrocarbons consists not only in increasing the reactivity of the hydrocarbon molecules; they are also of importance in hydrogenation and dehydrogenation, oxidation and dehydration, in consequence of the peculiar activating effect of the contact substances on hydrogen, oxygen, water, and so on.

I now come to such cases of catalytic conversions of hydrocarbons as have been elaborated in the last few years in the I.G.; cases which seem to be of interest scientifically or technically. I shall chiefly speak about conversions in which hydrocarbons are converted into other hydrocarbons. In these cases, the hydrocarbons are subjected to the action of catalysts either alone or in the presence of other participants in the reaction—oxygen, or compounds giving off oxygen or hydrogen.

It is characteristic of the previously mentioned controlling action of the catalysts that such catalytic reactions are very sensitive to changes in exterior conditions. In general, the process takes the desired course within only a slight interval of temperature, pressure, and time of contact of the reacting substances with the catalyst.

The changes which hydrocarbons under the action of contact substances can undergo by themselves consist either in splitting up or in polymerization. Besides these changes, others have become known in which only the structure of a molecule has been changed, but not its composition, for

Fluid-Fusion Means Safety in High Pressure Cracking



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instance, displacements of twofold or threefold linkage, and formation as well as splitting up of cyclic compounds. The catalytic splitting up of hydrocarbons—I count here also the separation of hydrogen, dehydrogenation—seldom occurs without subsequent reactions, as the molecular fragments have a tendency to combine to larger stable complexes according to the conditions of the experiments. That is to say, the splitting-up is followed by polymerizations or condensations.

A case of pure catalytic splitting up studied by us, is the dehydrogenation of ethane to ethylene: $C_2H_6 = C_2H_4 + H_2$. By means of a suitable catalyst it is possible to stop the splitting at the ethylene stage; that is to say, to prevent subsequent polymerization. The reaction has a rather pronounced optimum as regards temperature and the time of contact of the gases with the contact substance.

The splitting-up of the methane, first member of the paraffin hydrocarbons, into its elements has been carried out technically for the production of carbon black; it may also serve for the production of hydrogen. By means of catalysts, the rather high splitting temperature may be lowered.

The incomplete splitting-up of methane is explicable only by the subsequent polymerization of the resulting radicals. This reaction has often been investigated because of the fact that the catalytic conversion of methane into ethylene, acetylene, benzene, and so on, is of great technical interest. Methane is largely convertible into acetylene, ethylene, and other hydrocarbons if conducted over heated metals such as platinum, certain metalloids, oxides, salts, and ceramic materials, provided that the proper conditions of streaming and cooling have been maintained; however, the requisite temperature is rather high, and it is also difficult to avoid the depositing of carbon upon the catalyst.

The splitting-up of methane into acetylene and hydrogen is one of the previously mentioned cases in which the application of catalysts offers no advantage. On the contrary, the presence of catalysts or of solid substances in general, especially the walls of the reaction vessels, can act unfavorably by urging the reaction in the undesired direction of the formation of carbon and hydrogen. This phenomenon is probably most closely connected with the influence to which the methane molecule is subjected while being adsorbed on solid surfaces. A computation according to Nernst's heat theorem, shows that the equilibria between methane and acetylene,

$$2\,CH_4 = C_2H_2 + 3H_2 - 92 \text{ cal.}$$

under atmospheric pressure, at various temperatures, are as follows:

	per cent
At 800°	3.2
At 1000°	20
At 1200°	62

On the other hand, the equilibrium between methane and its elements: $CH_4 \rightleftarrows C + 2H_2$ is markedly shifted to the side of complete decomposition at a temperature as low as 900 degrees. Accordingly, when heating methane to the temperature required for the formation of acetylene, it is important, in order to avoid decomposition of the gas into its elements, to pass through the critical temperature—which is below 1000 degrees — as quickly as possible and to eliminate as far as possible the presence of heated walls. These conditions are excellently fulfilled if methane is heated in the electric arc. A further improvement of the working-process is obtained by adding hydrogen to the methane, as, according to the laws of thermodynamics, the formation of soot is thereby retarded. The electric arcs used up to the present in chemistry—for instance, the mechanically moved arc of Pauling, the magnetically moved arc of Birkeland-Eyde, and the stationary arc of Schonherr—cannot be used as they are for the splitting-up of methane, on account of the peculiar electric behavior of hydrocarbons. If, for example, we take Schonherr's oven, in the air combustion process it is possible to obtain arcs 8 to 10 meters long, whereas in the decomposition of methane, if the same amount of electric energy is employed, arcs only 60 to 80 cm. long can be obtained and these only by special means. Schonherr's arc oven, as adapted by us, produces almost complete conversion of methane into acetylene, provided that pure methane is used, diluted by a 1 to 1½ fold volume of hydrogen, and passed repeatedly through the arc; moreover, a high-grade hydrogen is obtained. The use of electric energy for this chemical process is very economical. One kilowatt hour yields 85 to 90 liters of acetylene, which means that the efficiency of the electric energy is 35 to 40 per cent. In the cases of the generally known air combustion processes the efficiency is only 2 to 3 per cent. Similarly it is possible to work up other hydrocarbons, such as tar oils, and petrol products to acetylene.

(*To be continued*)

Florida Station Is Open Only at Night

FILLING stations open all night have proven profitable to oil companies in a number of instances, but almost every case on record has been a location in the business district of some good-sized town. Few such experiments have indicated that all-night service at a highway station in the suburbs would pay.

Williams Oil Co. of Pensacola, recently experimented with a filling station open nights only at a location more than three miles from town on an unusually busy highway leading to Mobile, Ala. Over a period of months it was shown that the profits on business done between 7 o'clock p.m. and 7 o'clock a.m. would nearly pay for the attendant's time.

The location was that of Williams Oil Co.'s principal place of business. In the forks of the highway was a combination service station and retail store carrying groceries, refreshments, accessories and a few other odds and ends besides oil and gasoline. On the railroad nearby was the company's bulk plant.

The highway between Pensacola and Mobile is much shorter than the railroad and motor busses make better time than the trains. Motor travel continues all night long, all year. The all-night service was started more because the management felt the need of a night watchman for the store and the bulk plant than because they thought it would be profitable.

After careful consideration they decided to build a little frame house on the highway about half way between the store and the bulk station and install a gasoline vending pump in front of it, rather than leave the whole store in charge of one man at night. This (almost accidentally) developed into a station open only at night.

Nightwatchman's pay in this locality is about $15 a week. An old man was employed to fill the place. Each night when he comes on duty he puts $5 or $6 worth of candy, cigarettes and soft drinks into a basket at the main store, signs for them and takes them to the little frame room and shed by the roadside where also is a 10-gallon gasoline pump.

Besides punching the clock at various points around the store and bulk plant every hour during the night, the old man serves the nightly trade with gasoline, and motor oil from bottles and sells knicknacks from his little stock of merchandise. His gross sales seldom fall under $10 a night.

The profits on $10 worth of merchandise would not quite justify the all-night service. W. M. Williams says it would not be carried on if it were not for the fact that a watchman is necessary. It has been observed though, that the night business has increased slowly and steadily since the service was started. Mr. Williams thinks it may grow into an independently paying department some time.

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AMERICAN "PRESTO-SERVUS" METER SYSTEM

which insures satisfaction

AIR RELEASE VALVE. Effectively separates all vapor from the liquid, so that only the liquid is recorded by the meter. This keeps the METER ACCURATE and within tolerance at al times. *An exclusive American feature.*

DOUBLE-DIALED METER with 10" faces makes it easy for motorist to check his purchase from either side. *We use the best constructed and most accurate meter to be had.* It is the most expensive on the market because it is worth it—not to be confused with cheaper meters.

PUMPING UNIT is of the rotary type . . . large capacity . . slow speed, only 420 r.p.m. This prevents excess churning and vaporization of gasoline within the unit.

MOTOR is standard 1/3 h.p., vapor proof, and totally enclosed.

A quiet CHAIN DRIVE is used, geared 4 to 1.

STRAINER with large capacity screen is located below pumping unit; separates water and dirt from gasoline before it enters either pumping unit or meter.

SIGHT GLASS of large capacity with spinner, effectually displays gasoline being discharged.

CHECK VALVE. A check valve is connected to the strainer casting.

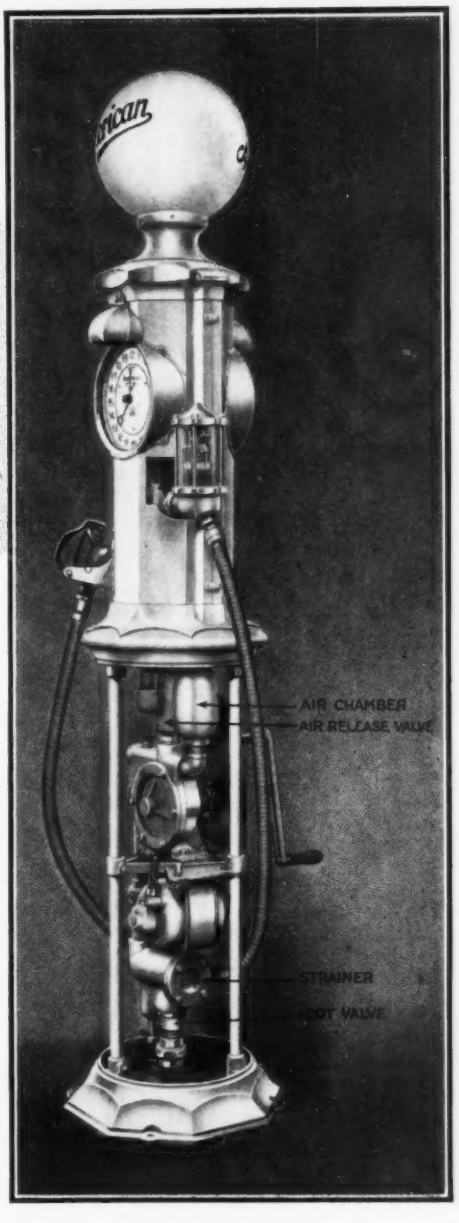
MONEL METAL SCREEN. Placed in the union below the check valve is an 1/8" mesh monel metal screen to prevent large particles from getting under the check valve.

AIR CHAMBER. The air chamber attached to the pumping unit is of ample size to cushion the shock when the hose nozzle is closed and the flow of gasoline is suddenly stopped.

ELECTRIC WIRING. All electric wiring is arranged in a solid conduit with vapor-proof boxes—entire outfit is VAPORPROOF.

LIGHT FIXTURES. The light fixtures consist of receptacles for illuminating the advertising globe at the top and the two dials of the meter.

Beautiful multi-color Bulletin explains details —write today for copy, without obligation.



The AMERICAN OIL PUMP & TANK CO.

1713 DALTON ST. CINCINNATI, O.

The Service Station Discount

By A. A. Stambaugh*

Reprinted from *Sohio Sales*, June 15 issue

THE discount at the service station is not only unjust to the man who pays the full price, because he is carrying the other fellow's load, but is also disastrous because no stable price structure can be maintained where it is permitted.

Just as the railroad rebate to certain preferred shippers proved itself to be unethical and was consequently outlawed, so the service station rebate for exactly the same reason must go. In no other industry is exactly the same service rendered to two different classes of customers over the same counter for which two prices are asked.

The heavy purchaser at the service station often claims that he is a quantity purchaser, and, therefore, should be entitled to a discount. The only sound reason for quantity discounts is that somewhere along the line there is an actual saving in serving such a customer over serving the average man. There should be lowering of sales expense, or delivery cost, or there should be some other sound economic reason for such rebate. At the service station there is no sales expense involved, since the public comes and goes as it likes, nor is there a saving on delivery cost to heavy commercial consumers. Whatever excess gallonage each of his vehicles absorbs is at least offset by the extra time and space his vehicle takes on the lot. Analysis shows, without a doubt, that the commercial vehicle, while at a service station, tends to impel the ordinary passenger car to drive on to the next station. When a service station becomes essentially commercial, the tendency is for the passenger car business to go elsewhere. Eager as we all are to serve the commercial consumer at the service station, there is no reason for allowing him a discount, except that he usually has a great bargaining power, just as did those concerns that exacted a railroad rebate in the old days. That, we all agree today, is not a sound economic reason for a discount, and we condemn it as unethical and unjust.

When the profit of gasoline is a fraction of a cent per gallon, to allow a certain customer a discount of two cents a gallon, for instance, simply means that you are loading the loss on the poor fellow who is willing to pay the full price. Thus the fight for one price at a service station becomes primarily the fight for the man in the street.

*Sales manager, Standard Oil Co. of Ohio.

There is still another decisive reason why the service station discount must go. The trade demands, and is entitled to a fairly stable price structure. Where a customer is getting a discount from his dealer he should also realize that others, possibly his own competitors, are getting even greater discounts on account of their bargaining power. The service station discount verily eats the bottom out of any price structure and throws prices into confusion. The trade, when it adopts such a practice, enters a vicious circle from which it cannot extricate itself until it abandons the practice.

The circle invariably goes in this way: The first step always is that some enterprising marketer, in order to encourage trade, which, of course means taking customers from a competitor, decides that his A-No. 1 customers who buy in large quantities at the service station, should be allowed a two-cent rebate on their credit account at the end of the month. His competitor, also an enterprising marketer, figures out that the cash buyer is a better customer than the credit buyer, and that there is no reason why he, too, should not be given a two-cent discount. The result is that the first marketer, in order to hold his cash trade, has to meet the situation. Thus we have two prices at the service station.

D. E. Frierson, Charleston, W. Va., marketing equipment dealer, who has completed six years service as secretary and treasurer of the West Virginia Oil Marketers Association. He still retains the office but this year the association has chosen him an assistant, M. L. Fling. With W. E. Widler, then manager of the Elk Refining Co., Mr. Frierson was an organizer of the association

Admittedly no marketing concern can maintain two cash prices at the service station. It is an opportunity for cheating of which the few dishonest service station salesmen will always take advantage. Therefore, the first marketer, in order to meet the situation, devises the bright idea of coupon books; having installed coupon books with discounts, the man in the street who has been paying the full price for his goods at the service station slowly wakes up to the fact that he is carrying the load. One by one these patrons come in and insist upon discount, to which, of course they are as much entitled as those who have been getting it. For that reason the marketer cannot honestly deny them. After this process has gone on for a time, the trade suddenly wakes up to the fact that all but a few of the people, who cannot raise the price of a coupon book, or who are not alert enough to insist upon a discount, are getting service station discounts. These discounts having grown in numbers, as they invariably do, to a point where the marketing costs are exceeded, the net effect of this process is that there develops substantially one price at the service station, and that price somewhere below the actual cost. Again the trade looks around at each other rather foolishly, proceed to abolish coupon books at a discount, and to establish a single posted price in the service station, and the vicious circle starts all over again.

It is for the above reasons, gleaned from sad experiences over the past decade or two, that the Standard Oil Company and others are now refusing to again enter this vicious circle, and are seeking to bring about in the Ohio market a fair degree of stability and equality.

At this time there is every indication that this movement will be successful.

Globe Machinery & Supply Co., Des Moines, Ia., has signed an insurance policy with the Zurich General Accident & Liability Insurance Co. providing for full settlement of any damage to an automobile arising from failure of or defect in the Globe auto hoist, relieving service stations and garages equipped with these hoists from all liability in case of a claim.

ASHEVILLE, N. C., July 19.—The Komar Oil Co. has been organized here to operate filling stations. Its authorized capitalization is $100,000. Officers are E. C. Ward, T. Warren Allen and Claire Moore, all of Asheville.

OUTSTANDING IN VALUE

Everything you could want or expect in an advertising globe is offered you in Cincinnati Globes—beauty of design—brilliance and permanence of colors—strength—durability—and lowest cost measured by years of service . . . . . The widespread use of these business getting globes by leading oil advertisers is complete assurance of their outstanding superiority . . . . . It will pay you to write us about your globe requirements.

THE CINCINNATI ADVERTISING PRODUCTS CO.

If desired our Art Department will create a new design for you.

Cincinnati, Ohio, U. S. A.

Large or small orders receive the same careful attention and prompt shipment.

Clean careful workmanship and special processes whereby trade designs are fired into, and actually become part of the glass, give Cincinnati Globes their superior advertising value . . . . They stand out clearly and attractively—always bidding for business . . . . . After years of use, designs

are intact and colors retain their original brilliance and intensity . . . . . Cincinati Globes give their money's worth and more in advertising value and service . . . . . Write us and learn how economical it is to produce your trade design in everlasting Cincinnati Globes.

CINCINNATI GLOBES

SELL MORE GASOLINE AND OILS

Reinforced Folio

Your Name in Gold FREE

Complete Only

$13.35

362—A very compact folio, having three pockets. Made from the best grade smooth black cowhide. Stiffened bottom reinforced with metal studs. Case contains six 4-oz. bottles and five grease jars. Two inner cases may be carried.

Less 10% for Cash

Other styles in our FREE Catalog

L-U-C-E

Builders of Sales Luggage

614 Delaware, KANSAS CITY, MO.

Careful Buyers

usually standardize on BENETCO drums. They have found, by actual experience, that BENETCO drums give the maximum service under the hardest usage. BENETCO drums are not made to meet a price—but are made to meet abuse...and deliver their contents safely.

Throughout the world BENETCO drums are paying dividends to *careful* buyers.

WILSON & BENNETT MFG. CO.

BENETCO Steel Containers

ON THE LAZY BENCH

National Petroleum News

Customer: "Are you sure this coonskin coat will be warm?"

Salesman: "Yes, sir. The fur in this coat came from coons that died of suffocation."

—Skelly News

* * *

Kid: "How did you get the red marks on your nose, uncle?"

Uncle: "Glasses, my boy!"

Kid: "Glasses of what?"

—Field Flashes

* * *

Agitated Wife: "I'm positive that was a human being we ran over."

Motorist (in thick fog): "Good! Then we're still on the road all right."

—Southwestern Bulletin

* * *

And when you are inclined to feel that the world is treating you harshly, picture the plight of the poor fellow whose son was out playing marbles with his glass eye, just when he needed it to look for work.

—Union Oil Bulletin

* * *

"Very sad affair," exclaimed Blinks, "They found poor old Bilikens asphyxiated last night!"

"You don't say!" replied Jinks. "The old fraud! He told me he was a prohibitionist!"

—Magnolia Oil News

* * *

Who remembers when neck was a noun?

—Pure Oil News

* * *

He: "My ancestors came over in the Mayflower."

She: "It's mighty lucky for you they did. The immigration laws are much stricter now."

—The Sohioan

* * *

The play teacher thought the children knew how to play blind man's buff. She blindfolded one little girl and when the child did not move she asked: "Why don't you play?"

The child replied: "Where is the cigarette?"

—Field Flashes

* * *

We sympathize with the skeptic who jumped off the Woolworth building to test his rubber heels and kept bouncing up and down until they had to shoot him to keep him from starving to death.

—Isotopics

The Latest

Sheik: "Have you heard the English Pants Song?"

Sheba: "No, what is it?"

Shiek: "London Breeches falling down."

—The Unloading Rack

* * *

An elderly lady was shocked at the language used by two men repairing wires close to her home. So she wrote to the Bell Telephone Company on the matter and the foreman was asked to report. This he did in the following way:

"Me and Bill Fairweather were on this job. I was up the telegraph pole and accidentally let the hot lead fall on Bill. It went down his neck. Then Bill said, 'You really must be more careful, Harry.'"

—Barnsdall

* * *

He: "Do you play golf?"

She: "Oh, dear no; I don't even know how to hold the caddy."

—Heil Quality News

* * *

Correct Too

Teacher: "Who is President of the United States?"

Boy: "Herbert Hoover."

Teacher: "Correct. Now who is Vice President?"

Bright Boy: "Mrs. Gann's brother."

—The Vent

* * *

High Hat

Uncle Mose, in spite of his illiteracy, had built up quite a competency from his white-washing and calcimining trade.

During the course of some business with a notary, the latter produced a document saying, "Please sign this here."

"Look heah, suh," Uncle Mose said with offended dignity, "I doesn't ever sign my name, suh. I's a business man, suh, wid no time for sich trifles. I always dictates my name suh!"

—Harvester World

* * *

Hot for Grandma

Asked to pray for warm weather so that her grandma's rheumatism might pass away, a five-year-old girl knelt and said:

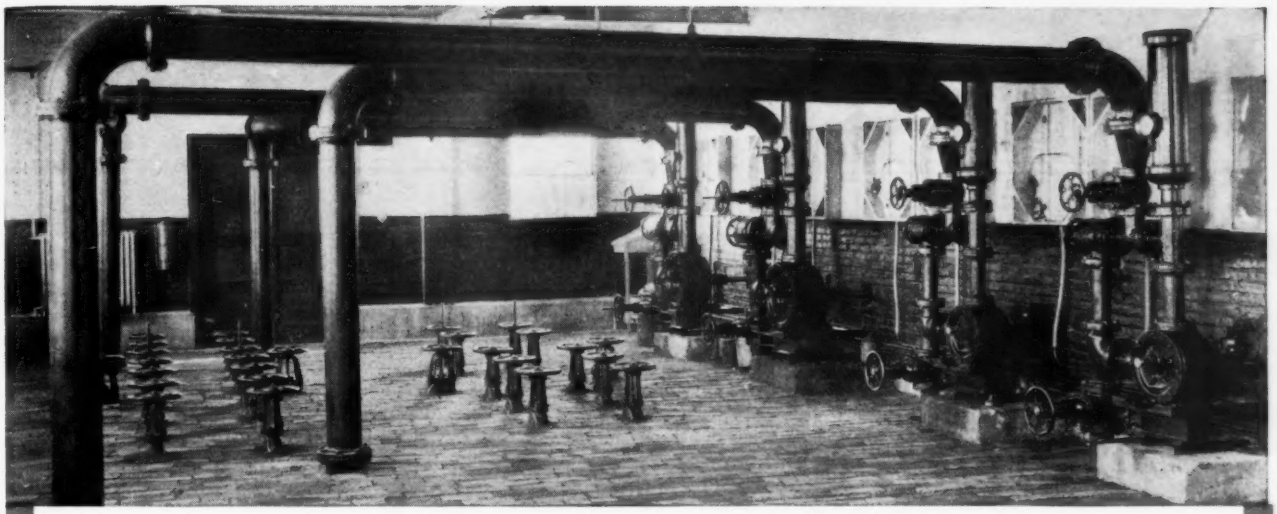
"Oh, Lord, please make it hot for grandma."

—Magnolia Oil News

* * *

Our worst joke—The man that invented Life Savers made a mint.

—Pure Oil News



Showing a Viking pump installation in a gasoline compounding plant.

The installation of Viking Pumps shown above consists of two pumps with a capacity of 450 gallons per minute each and two pumps each with a capacity of 750 gallons per minute. Total plant capacity 2400 gallons per minute!

In the picture at the right is shown the motors which supply the power. Vikings are supplied with a fire wall base—these motors are on the other side of the fire wall. This eliminates danger of sparks and fire.

Viking pumps are efficient because of their substantial construction—their simplicity of operation, having only two moving parts—their positive suction and discharge—their low power requirements. They are made in a wide range of capacities, from 5 to 1050 gallons per minute per pump. For handling oil in large volume they have no equal.

Write us—tell us your problem. We'll send you complete catalog and Special Oil Pump Circular. Get the Viking facts first! Write NOW.

Viking Pumps may be had with firewall base, which permits the erection of steel or brick walls between the pumps and motors, eliminating danger from gas vapors igniting from any possible motor sparks.

VIKING PUMPS

Viking Pump Company, Cedar Falls, Iowa, Walkerville, Ontario, Canada

Roster of Oil Associations

National Petroleum News

American Association of Petroleum Geologists, Business Manager, J. P. D. Hull, Box 1852, Tulsa, Okla.

American Association of Service Stations, Engineers Bank Bldg., Cleveland, O. William E. MacEwen, Managing Director.

American Chemical Society, Petroleum Division, Mellon Institute, Pittsburgh, Pa. J. B. Hill, Atlantic Refining Co., 3144 Passyunk Ave., Philadelphia, Pa.

American Gas Association, Graybar Bldg., 420 Lexington Ave., New York City. Secretary Alexander Forward.

American Institute of Mining and Metallurgical Engineers, Petroleum Division, 29 West 39th St., New York. Chairman, Petroleum Section, A. W. Ambrose.

American Oil Burner Association, 342 Madison Ave., New York City. Executive Secretary, Trell Yocum.

American Oil Chemist Society, 705 Tchoupitoulas St., New Orleans, La. Secretary-Treasurer, J. C. Helm.

American Oil Men's Association, 624 South Michigan Ave., Chicago, Ill. James A. Gilmore, Secretary.

American Petroleum Institute, 250 Park Ave., New York City. Executive Vice President, William R. Boyd, Jr.

American Society for Testing Materials, 1315 Spruce St., Philadelphia, Pa. Secretary-Treasurer, C. L. Warwick.

Committee D-2 (Petroleum), Dr. R. P. Anderson, American Petroleum Institute, 250 Park Ave., New York, N. Y., Secretary.

Arkansas Petroleum Club, Secretary, James P. Lavery, Petroleum Supply Co., El Dorado, Ark.

Arkansas-Tennessee Oil Marketers Association. Secretary, R. E. McKellar, care Diamond Oil Co., Memphis, Tenn.

Association of Producers of Petroleum in Mexico, 17 Battery Place, New York. Director, Guy Stevens.

Association of Producers of Petroleum in Venezuela, 17 Battery Place, New York City. Director, Guy Stevens.

California Natural Gasoline Association. Secretary, H. W. Parmelee, 221 Higgins Bldg., Los Angeles, Calif.

California Oil & Gas Association, 410 Chamber of Commerce Bldg., Los Angeles, Calif. Edwin Higgins, Managing Director.

Chamber of Mines & Oils of California. (Changed to California Oil & Gas Association. See above).

Cincinnati Oil Club. Secretary, F. H. Dinkelmann, Eureka Oil Co., Cincinnati, O.

Colorado Oil Dealers Association, The, 518 Denham Bldg., Denver, Col. Secretary, Charles L. Yancey.

Eastern Kentucky Oil Producers Association, Ashland, Ky. Secretary, David Browning.

Fire and Safety Marshals of the National Petroleum Association. President, James H. Herbert, Conewango Refining Co., Warren, Pa.

Georgia-Alabama Independent Petroleum Marketers Association. Secretary-Treasurer, W. L. Moore, Wofford Oil Co. of Georgia. Atlanta, Ga.

Georgia Independent Oil Marketers Association. Secretary-Treasurer, J. K. Ezell, American Oil Pump & Tank Co., P. O. Box 982, Atlanta, Ga.

Greater Chicago Oil Men's Club. Secretary, Mel Keim, Apex Motor Fuel Co., 4555 W. 26th St., Chicago, Ill.

Gulf Coast Independent Oil Producers Association, 403 Goggan Bldg., Houston, Tex. Secretary, T. L. Smith, Jr.

Illinois Petroleum Marketers Association. Secretary, G. A. Primm, Chamber of Commerce Bldg., Springfield, Ill.

Independent Oil Association of Oklahoma, 216 S. Morton Ave., Okmulgee, Okla. Secretary, C. I. O'Neill.

Independent Oil Men of America, Engineering Bldg., 205 W. Wacker Drive, Chicago, Ill. C. Y. Hinchey, Executive Manager.

Independent Oil Men's Association of Massachusetts. Secretary, F. E. Bergfors, care Quincy Oil Co., Quincy Adams, Mass.

Independent Oil Men's Association of New England. Secretary, I. H. Farrar, Berkshire Oil Co., Worcester, Mass.

Independent Oil Producers Agency, Los Angeles, Calif. W. B. Robb, Secretary-Treasurer.

Independent Petroleum Association of America. Headquarters to be at Tulsa—secretary to be chosen. Wirt Franklin, Wirt Franklin Petroleum Corp., Ardmore, Okla., head.

International Petroleum Exposition and Congress, Tulsa, Okla. Secretary, William Holden.

Independent Petroleum Marketers of Middle Atlantic States. (Changed to Pennsylvania Independent Oil Men's Assoc.)

Indiana Petroleum Association. Secretary Geo. Ziegler, 1615 N. Talbert St., Indianapolis, Ind.

Iowa Petroleum Association, 207 Securities Bldg., Des Moines, Ia. Secretary, M. L. Long.

Kansas Oil Men's Association, 423 First National Bank Bldg., Wichita, Kan. Secretary, J. A. Motter.

Kentucky Oil Men's Association, Inc., 610 Trust Co. Bldg., Lexington, Ky. Secretary, Thomas S. Scott.

Kentucky Petroleum Marketers Association, 1301 E. Main St., Louisville, Ky. Secretary L. J. Connolly.

Maine Independent Oil Dealers Association. President, Theodore E. Emery, president, Kennebec Oil Co., Augusta, Me.

Michigan Oil Men's Association, 207 West Franklin St., Jackson, Mich. H. H. Ragle, Executive Director; Walter A. Garvey, Field Secretary.

Michigan Oil & Gas Association, 207 W. Western Ave., Muskegon, Mich. President, E. J. Bouwsma, Citizens Petroleum Co., Muskegon, Mich.

Mid-Continent Oil & Gas Association, 308 Tulsa Bldg., Tulsa, Okla. Secretary, Harry H. Smith.

Kansas-Oklahoma Division, 308 Tulsa Bldg., Tulsa, Okla. Secretary, Harry H. Smith.

Louisiana-Arkansas Division, American National Bank Bldg., Shreveport, La. Secretary, Joseph B. Elam.

Texas Division, Kirby Bldg., Dallas, Texas. Secretary, J. P. Laney.

Minnesota Petroleum Association. (Changed to Northwest Petroleum Association, which see.)

Mississippi Oil Men's Association. Secretary, George B. Power, 501 Capital National Bank Bldg., Jackson, Miss.

Missouri Oil Men's Association, 370 Board of Trade Bldg., Kansas City, Mo. Secretary, George S. Allee.

National Association of Independent Oil Producers, 414-419 Ritz Bldg., Tulsa, Okla. President, William H. Gray.

National Credit Men's Association, Petroleum Refiners Division, 936 First National Bank Bldg., 33 S. Clark St., Chicago, Ill. Secretary-Manager, R. A. Colliton, Commercial Bldg., Tulsa, Okla.

National Gasoline Dealers Association, Inc., 280 Madison Ave., New York City. Secretary, Thomas P. McKee, Jr.

National Petroleum Association, Munsey Bldg., Washington, D. C. Washington Counsel, Fayette B. Dow.

Natural Gas Association of America, 905 Oliver Bldg., Pittsburgh, Pa. Secretary, Guy F. Batchelor.

Natural Gas & Petroleum Association of Canada, Chatham, Ont., Canada. Secretary, S. A. Morse.

Natural Gasoline Association of America, 305 Tulsa Bldg., Tulsa, Okla. Secretary, Ray E. Miller.

Nebraska Independent Oil Men's Association, 816-817 Terminal Bldg., Lincoln, Neb. Secretary, C. M. Sutherland.

New Jersey Oil Trade Association, 196 Halsey St., Newark, N. J. Secretary, J. H. Chambers.

New York State Oil Producers Association, Wellsville, N. Y. President, Lewis H. Thornton.

New York State Petroleum Marketers Association, 1201 So. Salina St., Syracuse, N. Y. Secretary. Benjamin A. Javitz.

North Carolina Independent Oil Jobbers Association, Greensboro, N. C. Secretary-Treasurer, L. H. Martin, L. H. Martin, Inc., Greensboro, N. C.

North Central Ohio Petroleum Club, 489 Cherry St., Marion, O.

North Dakota Petroleum Association. (Changed to Northwest Petroleum Association, which see.)

Northwest Independent Oil Association. Secretary, C. H. Brown, care Arro Oil & Refining Co., Lewiston, Mont.

Northwestern Pennsylvania Oil Producers Association, 78 Main St., Bradford, Pa. President, A. Edward Booth.

Northwest Petroleum Association. 638 Builders Exchange, Minneapolis, Minn. Secretary, Paul E. Hadlick.

Ohio Gas & Oil Men's Association, 811 First National Bank Bldg., Columbus, O. Secretary. William H. Thompson.

Ohio Petroleum Marketers Association, 508 Ohio State Savings Bldg., Third and Gay Sts., Columbus, O. Executive Secretary, W. A. Milne.

Oil Heating Institute, 342 Madison Ave., New York, N. Y. Secretary, Trell Yocum.

Oil Trade Association of Baltimore, Md. Secretary, Arthur B. Gardner, 309 East Falls Ave., Baltimore, Md.

Oil Trade Association of Philadelphia, Inc. Secretary, Howard M. Rogers,123 Arch St., Philadelphia, Pa.

Oil Trades Association of New York City, Inc., 35 So. William St., New York City. Secretary, Joseph C. Smith.

Oklahoma Oil Jobbers Association, 1203-4 First National Bank Bldg., Oklahoma City, Okla. Vinnie Chaney, Acting Secretary.

Oklahoma Oil Marketers, Inc., P. O. Box 755, Enid, Okla. Secretary, W. W. Blackburne.

Osage Oil & Gas Lessees Association, 505 Cosden Bldg., Tulsa, Okla. Secretary, Harry H. Smith.

Pennsylvania Grade Crude Oil Association, Levi Bldg., Oil City, Pa. Secretary, R. J. Alexander.

Pennsylvania Independent Oil Men's Association, 601 Keystone Bldg., Harrisburg, Pa. Secretary, R. A. Overholser.

Pennsylvania Retail Gasoline Dealers' Association, Altoona, Pa. Secretary, A. W. Martin.

Petroleum Club of Central New York. Secretary, George R. Casey, Crown Oil Co., Syracuse, N. Y.

Petroleum Industry Electrical Association. Secretary, H. E. Browne, Prairie Pipe Line Co., Independence, Kans.

Petroleum Motor Transport Association. President, Roy F. Fike, Mid-Continent Petroleum Corp., Cosden Bldg., Tulsa, Okla.

Pierce County Independent Gasoline & Oil Dealers Association. Executive secretary, J. H. Stine, 1009½ Pacific Ave., Tacoma, Wash.

Purchasing Agents Association of Tulsa, 307 So. Cincinnati St., Tulsa, Okla. Secretary-Treasurer, H. M. Cosgrove.

Rocky Mountain Association of Petroleum Geologists, Denver, Col. Secretary, W. A. Waldschmidt, 834 First National Bank Bldg., Denver, Colo.

Rocky Mountain Independent Oil Men's Association (formerly Colorado Petroleum Club), 411 Exchange Bldg., Denver, Colo. Secretary, A. Oberholtz, Jr.

Rocky Mountain Oil & Gas Association, P. O. Box 1559, Casper, Wyo. Secretary, C. W. Sparr.

Rocky Mountain Oil & Gas Association, Montana Chapter, 222 Ford Bldg., Great Falls, Mont. Secretary, Walter F. Brittan.

South Dakota Independent Oil Jobbers Association, Sioux Falls, S. D. Secretary, F. H. Buehler, care Dacotah Oil Co., Madison, S. D.

Southeastern Missouri Oil Marketers Association. Secretary, E. C. Smith, Kelso Oil Co., Cape Girardeau, Mo.

Southeastern Ohio Oil & Gas Producers Association, Logan, O. Secretary, W. L. Franks.

St. Louis Petroleum Club, 1430 So. Vandeventer Ave., St. Louis, Mo. Secretary, R. F. Leinberger, Blackmer Pump Co., St. Louis, Mo.

Springfield Petroleum Club, Secretary, Ross Lock, c/o Lock Bros., Oil Co., Springfield, Ill.

State Executives Club. Secretary, Paul E. Hadlick, Minnesota Petroleum Association, 638 Builders Exchange, Minneapolis, Minn.

Tank Car Association, 1015, 139 N. Clark St., Chicago, Ill. Manager, J. Arthur Kealy.

Technical Club of Oklahoma, 208 Fisher Bldg., Tulsa, Okla. Secretary, R. I. Ginter.

Tennessee Independent Oil Men's Association. Secretary, G. B. Dickey, Benzol Gas Corp., Nashville, Tenn.

Texas Petroleum Marketers Association. Secretary, C. A. Slimp, Slimp Oil Co., San Antonio, Tex.

Twin City Petroleum Club, Minneapolis, Minn. President, Perry C. Sanborn, John Hancock Oil Co., Minneapolis, Minn.

Virginia Independent Oil Men's Association, 511 Union Trust Bldg., Petersburg, Va. Secretary-Treasurer, M. B. Whiting, Whiting Oil Co., Clifton Forge, Va.

West Virginia Oil and Natural Gas Association, Fairmont, W. Va. Secretary-Treasurer, Edwin Robinson.

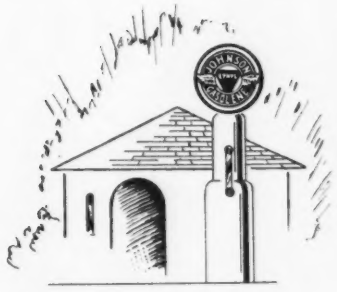
West Virginia Oil Marketers Association, 513 Peoples Exchange Bank, Charleston, W. Va. Secretary to be chosen.

Western Petroleum Refiners Association, Tulsa, Okla. Managing Director, Howard Bennette.

Western Reserve Petroleum Club. President, R. C. Heil, Commercial Oil Co., 2545 E. 83rd St., Cleveland, O.

Wisconsin Petroleum Association. Secretary, H. A. Rohde, Rohde-Deuster-Hinkley Oil Co., West Allis, Wisc.

Wyoming Petroleum Club. Secretary, G. H. O'Donnell, 847 So. Lincoln St., Casper, Wyo.



A new arrival among the famous "Winged Signs" »

JOHNSON ETHYL GASOLENE

And now every Johnson sign becomes an *even more* desirable stopping place for discerning motorists.

The quality of "The Splendid Johnson Gasolene"—substantially exceeding government standards—carries on through the complete Johnson line of motor fuels, kerosene, oils and greases. It is found, likewise, in Johnson Furnace Oils and it is the kind of quality that *holds* the patronage it wins.

Write for all the facts about the attractive Johnson franchise

JOHNSON OIL REFINING COMPANY

Refiners and Distributors

178 West Adams Street, Chicago

Branch Offices:

Pittsburgh, Pa.—905 Union Trust Bldg.
Omaha, Nebr.—1115 City National Bank Bldg.
St. Louis, Mo.—1601 Arcade Bldg.

Refinery: Cleveland, Okla. *Lubricating Plant:* Chicago Heights, Ill.

Taking Worry About Lubrication From the Car Owner's Shoulders

Every morning, a girl in the office of John Obitz Motor Co. in Omaha knows which customers should be in that day for their complete lubrication jobs

OMAHA

SERVICE and complete lubrication stations operated by the oil companies of Omaha, Neb., are not getting anything like their share of the greasing business from Ford cars of Douglas county, in which Omaha is situated. Owners of new Fords are going to Ford dealers for their lubrication work.

Not just one Ford dealer in Omaha, but several of them are actively soliciting the business of their customers. Why they want it is plain to be seen, but how they get so much of it is not so simple.

They want to do greasing because it is profitable, and because it enables them to make a pleasant contact with each of their customers about once a month, from the time he buys his first car until he is ready for another. The success they have met is so unusual that Ford dealers everywhere are getting interested.

The story of the Omaha Ford dealers and their greasing profits is spreading through the automotive industry like the proverbial "secret through a sewing circle." What the car dealers are doing the oil men could do too, but in Omaha the car dealers beat them to it.

The whole story in a few words is that the Ford dealers have set up a little system of index books and card cases in their offices which saves the Ford owners a lot of plain and fancy thinking, not to mention considerable cash. So far, it has been profitable to dealers and customers alike which (if you will pardon the platitude) is the test of the pudding.

Three Omaha Ford dealers questioned recently by a staff representative of NATIONAL PETROLEUM NEWS, told of their activities with the system. W. C. Sample of the Sample-Hart Motor Co., in the down-town business district; J. H. McFayden of the McFayden Motor Co., slightly removed from the retail district, and S. A. Mann of the John Obitz Motor Co., in the residential section, were selected.

The Sample-Hart Motor Co. now has about 400 customers on annual greasing contracts. Mr. Sample says that the company's service business paid the overhead for his establishment during those dull months just before the A-model Fords came on the market. Currently his service department is greasing about 40 cars a day.

"Ever since the firm went in business," Mr. Sample relates, "we have had a service man on the street. His duty was to call a few times on every new car owner to receive his kicks and keep him satisfied. In the old days if a customer came in to get some other work done he got a little grease if he asked for it. But it is different now."

A local printing firm, Corey & McKenzie, who have done a lively business for years printing trade stimulators for car dealers and garagemen, originated the plan now in use by the Omaha Ford dealers. At first the program had no special name but in recent weeks they have settled on the trade mark "Car-Life." The Sample-Hart Motor Co.'s plant was their experimental laboratory.

To a great extent the car dealers have been selling an annual contract for complete lubrication to each new customer when he bought an automobile. The year's lubrication service was sold to a customer with his car; the price being added to the price of the car with payments spread out over about a year's time. The finance companies agreed to it.

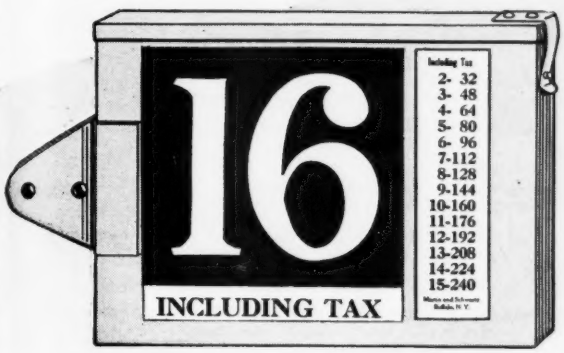
Sample-Hart set up the system nearly 18 months ago and installed an automobile lift to take care of the work. The growth of the business demanded a second hoist within five months and before a year elapsed three were in use. Now there are four, but the last one is rather idle on account of cramped space and Sample-Hart is about to enlarge its service floor 200 per cent. The new work room will be 132 x 200 feet.

An approximate estimate has been made that 75 per cent of the automobiles in Douglas county are small cars. The ordinary run on the street shows two Fords and one Chevrolet to one of all other makes. Naturally the Ford business of Omaha is desirable and its diversion has attracted considerable attention.

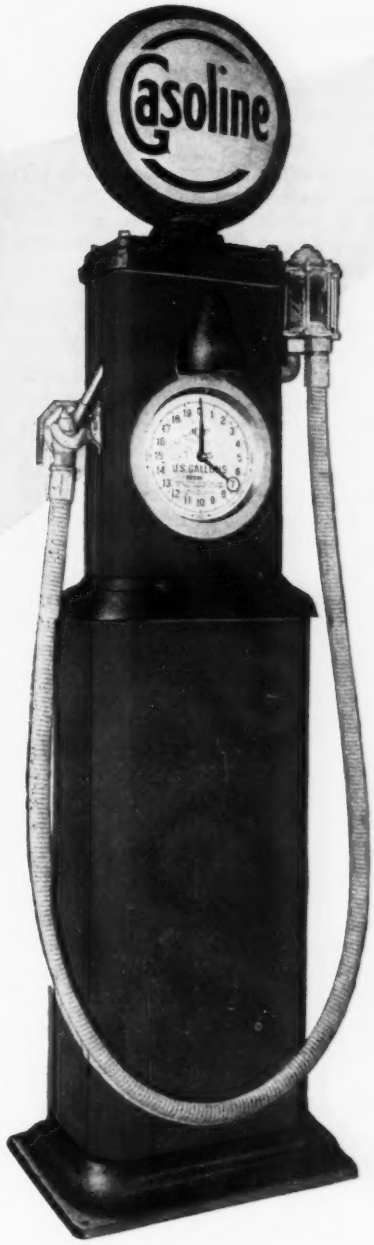
The McFayden Motor Co. is following the same system and is turning out 30 to 40 lubrication jobs a day and J. H. McFayden says he will be obliged to increase the size of his service department soon. He is

3 M&S LEADERS

M & S Price Registers end delays and costly mistakes in figuring charges.



The use of M & S Floodlights has greatly increased the night sales of many service stations.



The M & S Meter Pump is planned for lasting efficiency, accuracy and speed.

-that build GALLONAGE

HERE are three M & S leaders that are helping thousands of service stations make more money: M & S Meter Pumps, M & S Price Registers, and M & S Floodlights.

Take M & S Meter Pumps . . . their country-wide average is well over 7 gallons of gasoline per sale. Figure what that means to your cash register! Their big, easily read 20-gallon dial encourages larger individual sales. Their high speed pumping unit and automatic starting and stopping features help you speed up service and keep impatient customers happy. Because their working parts are solidly attached to channel iron uprights, instead of to the shell, they possess a strength and rigidity unequalled by any other pump built.

Then M & S Price Registers . . to tell your patrons before they come in what they're going to pay per gallon; to tell the attendant, the minute they name the quantity, what the total charge should be. No chance for misunderstanding — no delays or annoying mistakes in figuring. It's all on the M & S Price Register, figured out to a decimal, with state tax included or without, as you prefer.

If your station is open at night *you need M & S Floodlights.* Their glareless rays, directed exactly where needed, not only attract business, but also provide proper light for working and discourage vandalism and theft.

Reflecting bowl is aluminum—not glass or polished metal—producing a glareless flood of light. Wide clearance between bulb and reflector prevents breakage of the bulb. Full tilting — quickly adjustable — and with oversize mounting parts — the M & S Floodlight is the aristocrat of service station lighting equipment. Yet the price is no more than that of a cheap sheet metal job.

Build gallonage — and you'll build profits. These M & S products will help you. Mail the coupon today for prices and descriptive literature.

M&S **SERVICE STATION EQUIPMENT**

COUPON

Martin & Schwartz, Inc.,
2651 Main Street,
Buffalo, N. Y.

Please send detailed information, including prices, on ( ) M & S Meter Pumps, ( ) M & S Price Registers, ( ) M & S Floodlights.

Name.....

Address.....

using only two automobile lifts but is working four men on them. He says that 20 to 25 per cent of the individuals who buy cars from him are returning for all their lubrication.

Of course the service rooms of these two dealers are not given over wholely to lubrication, but it has been the lubrication service that brought in most of the other work.

"The Ford dealer is holding his own trade now from the alley garage," said Mr. McFayden. "It is noticeable in our parts department. We are selling comparatively few parts to garagemen who come in and buy them over the counter. Our own service department is doing the repair and installation work for our customers—not some mechanic around the corner."

The most unusual development came to light at the John Obitz Motor Co., where the customers of the service department are three times as many as those to whom the company has sold automobiles. Two-thirds of the motorists who patronize Obitz's lubrication department bought their cars elsewhere. Not all of them drive Fords.

The John Obitz Co., aided by their system has taken the services of the cars of the local telephone company away from the company's own garage. The Omaha branch of the Bell Telephone Co. operates 300 automobiles, many of which are Fords. Until recently they had their own shop and serviced their own cars. But they are now discontinuing their shop.

The telephone company's shop used to employ seven men and the management did not want to lay them off so they made an arrangement with Mr. Obitz to use them. The telephone company pays salaries, while the Obitz organization works its men on a percentage basis.

When the first workman was transferred from the telephone company's shop to the Obitz service room, he was guaranteed a certain income until he could adjust himself to the new arrangement. His earnings were figured on a percentage basis as a matter of information however, and if he had been paid on that basis he would have earned only $6 the first week. This gives some idea about how much expense the telephone company is saving by patronizing a private enterprise instead of running their own shop.

The system these car dealers use is an organized routine which motorists can easily follow and always be sure they are getting just what lubrication their cars require without paying for more than they need at any time. If any motorist follows the plan strictly he will drive his car into the dealer's service room every 500 miles, but he will not be given the same sort of a job each time.

C. E. Corey, general manager of Corey & McKenzie figured out the system. In the case of the Ford car he listed all the points that require lubrication at all, and divided the list into three groups.

Group "A" includes all points that need lubrication every 500 miles; Group "B" includes all of Group "A" and some other points that need lubrication every 100 miles; and Group "C" includes all of Groups "A" and "B" and some other points that need lubrication every 1500 miles.

When a Ford owner buys a year's lubrication he is given a little book that resembles a savings account bank book in appearance. In the middle of this little book is a two-page spread called a "Car-Life Register," and the customer's speedometer reading is entered thereon, corrected to the nearest 500 miles.

In a column under that entry, future speedometer readings are entered. Each figure is 500 miles larger than the one just above it. Those figures are all entered at once. If the motorist follows his pass book he will report to his dealer's service department every 500 miles.

At the end of his first 500 miles he gets a Class "A" lubrication job. When he comes in next time with a 1000-mile reading he gets a Class "B" lubrication which includes all the first service and more. After 500 miles more with 1500 miles on his car he comes back again and gets a complete lubrication job, motor and all. At 2000 miles he gets a Class "A" job again—and so on for 12 successive jobs.

Following the old-fashioned "hit and miss" greasing system, buying lubrication first at one place and then at another, this same motorist would be exposed to two dangers:

If he happened to stop at a high-class and high-priced lubrication station, where nothing was known about when the car was greased last, and how, he would probably buy a com-

Three Greasing Jobs

The classification of greasing and oiling work differs with each automobile. But, for illustration, on one car the lubricating requirements are divided as follows:

At the end of the first 500 miles the motorist gets a "Class A" lubrication job which takes care of 13 things.

- Oil Changed (Crank case).
- Spring Shackles.
- Steering Knuckles.
- Steering Rods, etc.
- All Motor Fittings.
- All Clutch Fittings.
- All Brake Connections.
- Other Fittings.
- Special Fittings.
- Springs Oiled.
- Door Hinges, Locks, etc.
- Distilled Water (battery).
- Tires inflated (including spares).

At the end of the first 1000 miles the motorist gets a "Class B" lubrication job, which includes all he had in the former one plus the following:

- Universal Joints.
- Starting Motor Generator and distributor.
- Steering Column.
- Distributor Cleaned.
- Rear Axle (add lubricant).
- Transmission (add lubricant).

At the end of the first 1500 miles the motorist gets a "Class C" lubrication job, which includes all of Classes A and B plus the following:

- Flexible Speedometer Shaft.
- Transmission Cleaned and Refilled.
- Rear Axle Cleaned and Refilled.
- Wheels Packed.
- Strainers Cleaned.
- Motor Exterior Cleaned.

After having been to his service department three times and served each time with just what he needs and no more, the motorist's routine repeats the above and continues the life of his contract.

One corner of the service department of Sample-Hart Motor Co. in Omaha, where lubrication jobs run 40 a day on Fords only

plete job, all around, getting more and paying for more than he actually needed.

If he happened to drive into a cheap greasing establishment, the motorist might pay 75 cents or $1 for what the man in charge called a greasing job, which would be a chassis greasing only and even that might be slighted.

With the Omaha system, a motorist buys his lubrication on a contract. He gets it all at the same place. He gets just what he needs every time, no more and no less. The idea has been literally "hailed with joy" by busy men who leave the care and attention of their cars to their wives who know nothing about mechanics and care less.

It is not necessary that the motorist watch his little pass book all the time or even carry it with him. The same information carried in the pass book is held in the service man's office, in a loose leaf book or in a "cardex system." If the contracting customer does not come in when he should the dealer sends him a postal card or calls him on the telephone. That detail of the system is not new but is effective where it is used.

Of course the system is not confined to the service of Fords. The printing company has a set-up for every well-known make of car. It just happened to take hold more quickly among Ford dealers on account of instructions they all received about a year ago from the Ford factory.

Just as the Model "A" Ford came on the market, Ford dealers received orders from Detroit to give every new Ford owner three complete lubrication services and one car wash free —the lubrication services to be 500 miles apart for the first 1500 miles.

The edict from Detroit was not welcomed in all quarters. Some dealers resented it, but they had to at least go through the motion. Corey & McKenzie, who were in touch with the situation, were just getting their lubrication system completed at the time, and they naturally took advantage of the opportunity and supplied the Ford dealers a help they wanted, and wanted quick.

The little pass book contains a variety of other things besides the "Car-Life Register." Among them is a convenient way to keep tab on an automobile's gasoline consumption, an easy system of checking up on the condition of a battery, and a "Lubrication Certificate."

The last mentioned item is a document which the service department of the automobile agency signs and issues to the car owner after his lubrication contract has expired.

On the inside back cover of the little book the three classes of lubrication jobs are minutely described.

WANTED

—a man with a burning desire to make his mark in the advertising and marketing of gasoline and automobile lubricating oil.

We are advertising agents for one of the leading petroleum refiners in the world. We are looking for a man from the oil field to work with us on this account.

Briefly, we want someone whose record would make him interesting as sales promotion manager, sales manager or advertising manager to one of the most alert refiners in the field. But this man will work instead with an advertising agency whose standing is of the highest.

We will want him to come to us with an up-to-date knowledge of conditions in the field. We will expect unusual ability to size-up and analyze the marketing problems that exist in selling gasoline and oil.

Above all we want a man who has proved himself both sound and fertile in thinking up effective sales promotion measures in this interesting field. We would like someone who privately believes that he has a bit of the superman in him.

We prefer a college graduate. The age range is about 35-45. Good personality is essential. Also the ability to sell ideas both in person or in writing.

If you think you would qualify, we invite you to write us and tell why. Your letter will be handled in strictest confidence.

Address Box 374, care of National Petroleum News

STATION STAND SIGNS
METAL BULLETINS
CARDBOARD DISPLAYS

Double Printed with Paint on our own Patented Presses

LITHO-PAINT POSTER COMPANY
4234-38 Lincoln Ave. Chicago, Illinois

Ask for Quotations

GASOLINE
WON'T TURN
YELLOW
IN
MACBETH
KROMEX
CYLINDERS

Beware of Ultra Violet!

When your gasoline turns yellow, or straw-colored, or muddy, it's because the ultra violet rays are getting in their destructive work. You need Macbeth Kromex Cylinders to keep them out. Kromex glass filters out the harmful rays and keeps gasoline crystal-clear.

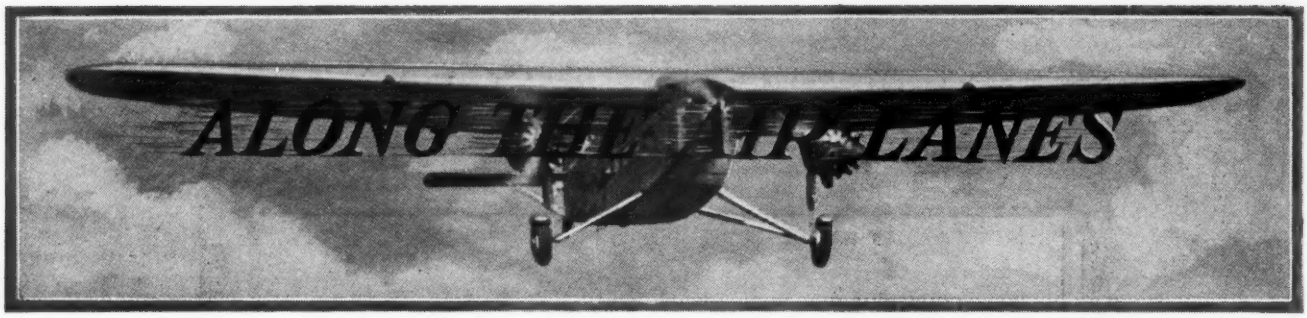
Summer sunlight is strong in ultra violet. All daylight contains some of these destructive rays. Ultra violet passes through cylinders of ordinary glass with comparative ease.

Nobody wants to buy muddy-looking, straw-colored gasoline. Have your pumps equipped with Macbeth Kromex Cylinders and eliminate this objectionable feature. Kromex Cylinders are tinted a faint blue to enhance the appearance of the gasoline still further.

Write to your pump manufacturer today and tell him you want Kromex Cylinders in your pumps. For complete information about Kromex, including spectrograph, write to

MACBETH EVANS GLASS COMPANY

CHARLEROI PA.



A re-fueling service for airplanes that is in keeping with the speed of air transportation is the object of the Butler Mfg. Co., Kansas City, Mo., in building these units. Those that it is furnishing to Transcontinental Air Transport, Inc., deliver 60 gallons of gasoline per minute into the airplane tank, and a plane can be fueled in less than five minutes, according to the latter company's house magazine.

Each re-fueling unit of the Butler company consists of a Buick powered truck on which is mounted a 750 gallon tank for gasoline, and a two-compartment tank for lubricating oil, fitted with heating coils which take heat from the motor exhaust. Thermometers are also a part of the equipment of the tanks so that the oil of the same temperature may be put in as the oil that is already in the motor, avoiding warming up after taking on a new oil supply.

The arrangement of the manifolding, by-pass valves and power control is such that only one man is needed to drive the truck to the planes on the field and service them with gasoline, oil and air.

Rubber-covered platforms from which servicing the giant tri-motored planes can be safely done are built on the top of the truck cab and control compartments on the side.

The Butler Aircraft Corp., subsidiary of the Butler Mfg. Co., is supplying these units to T. A. T., Inc., and these have already been installed at these airport terminals: Columbus, Indianapolis, St. Louis, Kansas City, Wichita, Wyanoka, Okla., Clovis and Albuquerque, N. M., Kingman and Winslow, Ariz. and Los Angeles.

Six units have been delivered to the Richfield Oil Co., Los Angeles, which company will service the Western Air Express line with gasoline and oil at various points.

The Aetna Oil Service, Inc., Louisville, is another oil company using this re-fueling unit.

A girl stowaway, Miss Florence Beattie, of Des Moines, was discovered in the Shaffer Oil & Refining Co.'s plane "Deep Rock" when it was flying in the Iowa air tour from June 23 to 29. Miss Beattie had climbed into the baggage compartment at Des Moines when the pilot wasn't looking and will, therefore, lay claim to the distinction as the first girl stowaway in Iowa's aviation history.

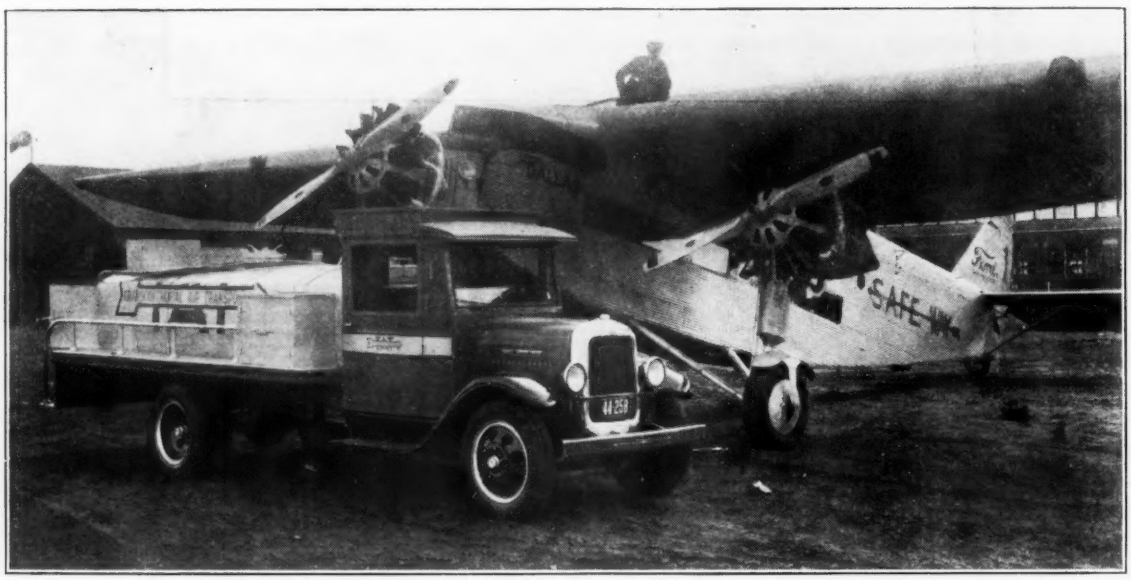
The plane left Chicago on June 23 for Des Moines to inspect company plants at various points in Iowa and to meet some of the company's jobbers. These points were visited: Centerville, Ottumwa, Muscatine, Iowa City, Marshalltown, Waterloo, Mason City, Wesley, Algona, Fort Dodge, Emmetsburg, Cherokee, Sioux City, Ida Grove, Harlan, Clarinda, Bedford and Creston, Ia. and Omaha, Neb.

On the ship were these Shaffer officials: C. T. Fantozzi, assistant sales manager; J. P. Ford, sales manager, wholesale division; A. L. Bloomingdale, assistant division manager in the Iowa-Nebraska division; and Guy Hoffer, H. M. Byllesby & Co., representative in Omaha.

Richard C. Allen, manager of the company's aircraft division, piloted the ship.

Independent Oil & Gas Co. of Tulsa, has entered the ranks of oil companies owning airplanes for use of executives and for sales promotion work. The company on July 2 accepted delivery of a Lockheed monocoupe, the ship being brought to Tulsa from Los Angeles.

The arrival of the ship was responsible for the gathering of several executives of the company at the municipal air port. Villard Martin,



A super-service aircraft re-fueling unit of the Butler Aircraft Corp. refueling a Southern Air Fast Express plane at Fairfax field, Kansas City. This unit delivers 60 *gallons of gasoline per minute into the airplane tank. Every airport used by Transcontinental Air Transport, Inc., is being supplied by these units, the company says,* 11 *already being in use*

Extra Profits go with

McDONALD Quality PRODUCTS

Lock Gate Valve
Plate 846
Patented 1-10-20

Every time a piece of cheap equipment goes "hay wire" on you—it costs you money. And it usually happens on a busy day. Contrast that with the smooth working, quality McDonald Products—with their known years of dependable service—their operating economies and their safety features.

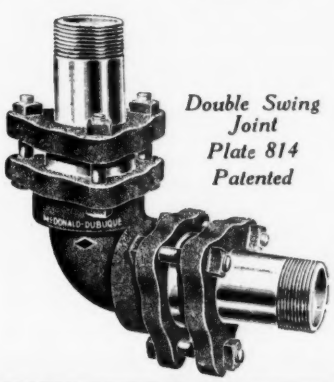
Cut down your equipment replacement costs—be assured of the steady, profitable operation of your plant. Specify McDonald Quality. There is no substitute—no equal. Write for complete information on your immediate requirements.

"The Home of the Swing Joint"

New Truck Tank Vent
Plate 900

All Brass Swing Joint

Angle Check Valve
Plate 901
Eliminates Foot Valve



Double Swing Joint
Plate 814
Patented

A. Y. McDONALD MFG. CO.
Dubuque, Iowa

Omaha Minneapolis Des Moines Kansas City
Sioux City Lincoln Denver

There's a McDonald Distributor Near You

Hose Nozzle
Plate 817-FF
Listed as Standard By Underwriters' Laboratories.

general counsel, Gillette Hill, vice president, and Mrs. Hill on June 26 flew to Los Angeles in a Lockheed owned by Erle P. Halliburton, where they inspected the ship built for the Independent company. Tom Parks was pilot on both trips.

The trip to Los Angeles was made in one day, the party of four leaving Tulsa about 4 a.m. June 26 and arriving at Los Angeles about 4 p.m. Tulsa time. The ship bought for the Independent company was tested after which the party started on the return trip. They left Los Angeles the morning of July 1, spent the night in El Paso, and reached Tulsa at 3:45 p.m. July 2.

The ship is equipped with a Wasp motor and has a cruising speed of 135 miles an hour. It carries at present two 50-gallon gasoline tanks in the wings, but an order has been placed for an additional tank which will increase the capacity to 200 gallons. The ship can accommodate four passengers and the pilot comfortably, but if necessary can carry five passengers and pilot. It has a second instrument board in the passenger compartment.

The plane has been painted in the company colors, blue and white. Mr. Martin, E. H. Moore, president, R. B. Pringle, vice president and L. F. Craig left July 4 in the plane for Des Moines and Omaha.

They brought the new Lockheed mono-coupe for the Independent Oil & Gas Co. from Los Angeles to Tulsa. Left to right: Tom Parks, pilot; Mrs. Gillette Hill; Gillette Hill, vice president; and Villard Martin, general counsel

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T. T. Pendleton of the Fort Worth producing firm of Roeser-Pendleton, Inc., has purchased a six-passenger Stinson-Detroiter cabin monoplane, powered with a Wright J-5 engine of 220 horsepower. The purchase was made from the Texhoma Flying Service, which handles Stinson-Detroiter distribution for Texas and Oklahoma. Mr. Pendleton uses the plane frequently for trips from Fort Worth to Albany and return in connection with development of the Cook pool in Shackleford county, central west Texas.

The value of company-owned and operated airplanes for corporate use was demonstrated recently when a large recording of counterparts of a bond indenture was made in California in one day.

At 4 a.m. June 19, counterparts of this indenture which covered a $25,000,000 convertible 6 per cent bond issue of the Richfield Oil Co., of California, were received from the printers' in Los Angeles. To meet the legal requirements it was necessary that these counterparts be filed in each of the 44 counties of California in which the company owns property.

Using ordinary mail transportation to various county seats, it would have taken six days before these recordings could have been completed, at a loss of approximately $40,000 in interest charges.

At 5:30 three Richfield planes left Vail field in Los Angeles, carrying company officials who hoped to have completed all the recordings by night. At such points at which communities lacked airports, the papers were dropped in aluminum sealed tubes by parachutes to branch managers who relayed them by automobile to the county seats.

By 8:15 of the same day the last of the papers had been filed marking the successful completion of an unusual feat.

A hangar, 80 x 100 feet, with a housing capacity of six to 10 planes, has been completed at the Newark, N. J. airport of the Standard Oil Co. of New Jersey. On the side of the hangar is a lean-to, which has been fixed up for a filling station.

The company now operates three planes: a Sikorsky S-38 amphibion, the most recent addition, a Lockheed-Vega and a Curtiss Robin. The Lockheed-Vega just returned from a European air tour, the Sikorsky from the Pacific Coast, and the Curtiss-Robin from a tour of the eastern seaboard.

The twin-motored Sikorsky amphibion was chosen with the factor of safety in mind. It will be used extensively on surveys and inspection tours and in the transportation of directors and other company officials on quick trips out of town, according to the April edition of "The Lamp," company publication.

This plane's fuselage and floats are painted red with a white line. The word "Standard" is lettered in white on either side of the hose.

It is an eight-passenger plane and carries pilot and mechanic.

The first air route map over which passengers are to fly has been handed out to customers of the Southwest Air Fast Express, Tulsa, commonly known as SAFE way.

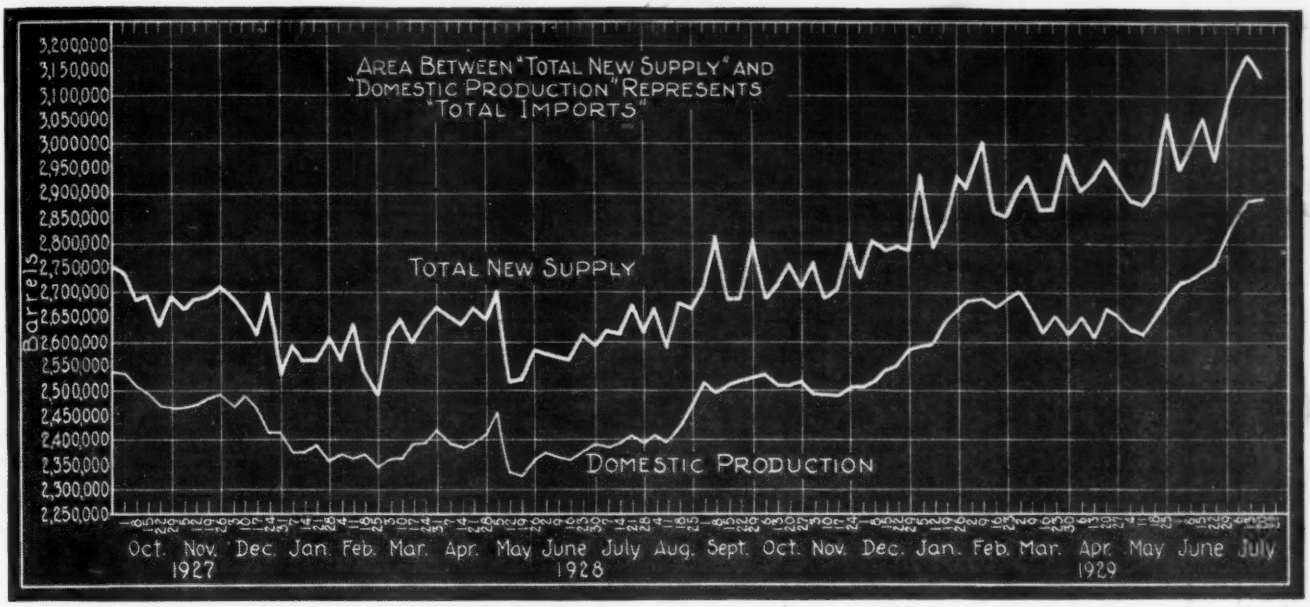
On this map, prominent buildings and other landmarks are identified. Air distances in each direction and rail lines are shown, and a table of various ground speeds enables the passengers to compute the distance covered by the plane in any given time.

The international map was used as a base in drafting the air maps and a representative of the map company flew all divisions of the line to check the route and indicate location of objects which might be of interest to aerial passengers.

Erle P. Halliburton, of the Halliburton Oil Well Cementing Co., Duncan, Okla., is president of SAFE way.

Government flying fields in the Eighth Corps area will get supplies from the Humble Oil & Refining Co., Houston, under contract recently announced. Two grades of gasoline will be supplied, "Flashlike Aviation" and "Flashlike Ethyl Aviation." Deliveries will be made at Brooks field, San Antonio; Biggs field, Fort Bliss, El Paso; Fort Crockett field, Galveston; Dodd field, Kelly field and the intermediate Duncan field, San Antonio; and Fort Sill, Okla.

Daily Average Crude Oil Production and Imports



Daily average gross output of United States, by fields, for week ending with dates below as compiled by American Petroleum Institute

PRODUCTION SUMMARY

	July 20	July 13
Production east of Rockies	2,013,650	2,009,150
Increase		4,500
Total production in U. S.	2,893,950	2,891,750
Increase		2,200
Crude oil imports	245,714	301,000
Decrease		55,286
Total crude supply	3,139,664	3,192,750
Decrease		53,086

OKLAHOMA

	July 20	July 13
Allen Dome	25,150	24,950
Asher	12,650	9,750
Blackwell	3,750	3,850
Bowlegs	34,550	33,600
Braman	3,850	3,800
Bristow-Slick	20,650	19,700
Burbank	19,600	19,700
Carr City	13,900	13,800
Cromwell	8,050	8,100
Cushing	18,600	18,550
Davenport	1,400	1,450
Duncan District	7,500	7,250
Earlsboro	81,800	82,650
East Seminole	5,550	5,250
Fox	1,400	1,400
Garber	5,650	5,750
Graham	4,300	4,200
Healdton	13,000	12,850
Hewitt	7,950	8,100
Hubbard	1,800	1,800
Little River	76,850	80,200
Logan County	21,050	21,000
Maud	11,600	11,900
Mission	32,200	33,850
North Okmulgee	12,800	12,800
Oklahoma City	21,450	19,700
Osage (outside Burbank)	26,100	26,500
Papoose	3,300	3,300
Pearson	1,200	1,250
St. Louis	72,300	75,150
Scholem-Alechem	12,700	12,700
Searight	11,350	11,850
Seminole	33,750	34,400
South Okmulgee	8,350	8,350
Thomas	850	900
Tonkawa	9,550	9,850
Wewoka	4,700	4,750
Yale-Jennings	7,000	6,950
Others	59,500	59,000
Total, Oklahoma	717,700	720,900
Decrease		3,200

KANSAS

	July 20	July 13
Augusta-Fox Bush	3,100	3,100
Churchill	6,100	5,900
El Dorado-Towanda	12,900	12,900
Florence-Covert	950	950
Greenwood County	21,100	21,150
Oxford	4,500	4,500
Peabody-Elbing	2,800	2,800
Rainbow Bend	1,050	1,050
Russell	3,200	3,200
Sedgwick County	36,500	33,250
Others	32,800	32,500
Total, Kansas	125,000	121,300
Increase		3,700

NORTH LOUISIANA

	July 20	July 13
Bellevue	600	600
Caddo, light	9,450	9,500
Caddo, heavy	3,400	3,250
Cotton Valley	2,550	2,500
De Soto and Red River	3,700	3,450
Elm Grove	550	600
Haynesville	4,950	5,000
Homer	3,900	3,900
Pleasant Hill	500	550
Urania	6,300	6,100
Others	250	250
Total, North Louisiana	36,150	35,700
Increase		450

ARKANSAS

	July 20	July 13
Champagnolle	7,500	7,400
El Dorado	4,650	4,550
Lisbon	1,250	1,200
Nevada	1,000	1,050
Smackover, light	6,200	6,200
Smackover, heavy	46,950	47,650
Stephens	1,000	1,000
Others	100	100
Total, Arkansas	68,650	69,150
Decrease		500

TEXAS (Outside Gulf Coast)

Panhandle District

	July 20	July 13
Carson County	7,100	7,200
Gray County	56,050	55,750
Hutchinson County	24,500	25,150
Wheeler County	600	600
Others	1,000	1,100
zTotal, Panhandle Texas	89,250	89,800
Decrease		550

North Texas

	July 20	July 13
Archer County	19,000	18,350
Burkburnett	8,700	8,800
Electra	11,800	12,000
Iowa Park and K. M. A.	4,700	4,800
Montague-Cooke	13,100	12,600
Wilbarger	27,000	26,100
Others	800	700
Total, North Tex.	85,100	83,350
Increase		1,750

West Central Texas

	July 20	July 13
Brown County	7,500	7,800
Callahan County	4,200	4,300
Coleman County	6,300	4,350
Eastland-Desdemona	7,000	6,800
Jack County	3,300	3,000
Palo Pinto County	400	300
Shackelford County	11,200	11,600
Stephens County	6,600	6,100
Throckmorton County	800	700
Young County	11,500	8,950
Others	600	600
Total, West Central Texas	59,400	54,500
Increase		4,900

West Texas

	July 20	July 13
Crane and Upton Counties	45,200	45,400
Crockett County	2,100	1,900
Howard County	43,200	42,900
Jones County	3,400	3,100
Mitchell and Scurry Counties	2,700	2,700
Pecos County	139,900	135,400
Reagan County	18,100	17,900
Winkler County	140,200	141,500
Others	1,400	1,500
Total, West Texas	396,200	392,300
Increase		3,900

East Central Texas

	July 20	July 13
Boggy Creek	2,800	2,600
Corsicana-Powell	7,200	7,550
Currie	400	350
Mexia	5,400	5,450
Nigger Creek	400	400
Richland	350	400
Wortham	950	1,000
Total, East Central Texas	17,500	17,750
Decrease		250

Southwest Texas

	July 20	July 13
Dale	400	400
Laredo District	11,000	10,950
Luling	11,300	11,400
Lytton Springs	1,000	900
Salt Flat	47,250	48,500
Somerset	1,450	1,600
Others	3,950	3,750
Total, Southwest Texas	76,350	77,500
Decrease		1,150
Total, Texas (Outside Gulf Coast)	723,800	715,200
Increase		8,600

GULF COAST

Coastal Texas

	July 20	July 13
Barbers Hill	7,500	8,500
Batson	1,250	1,250
Big Creek	4,200	4,500
Blue Ridge	4,000	3,400
Boling	1,400	1,500
Damon Mound	600	600
Goose Creek	5,500	5,600
Hull	7,900	7,800
Humble	6,600	6,300
Orange County	2,850	2,800
Pierce Junction	17,150	19,200
Raccoon Bend	6,700	6,600
Saratoga	900	900
Somerville	2,500	2,700
Sour Lake	2,700	2,800
South Liberty	6,100	6,100
Spindletop	27,400	29,300
Sugarland	13,300	12,700
West Columbia	5,850	6,100
Others	3,750	3,200
Total, Coastal Texas	128,150	131,850
Decrease		3,700

Coastal Louisiana

	July 20	July 13
East Hackberry	2,800	3,150
Edgerly	700	700
Evangeline	2,250	2,500
Lockport	3,600	3,600
Old Hackberry	2,100	2,350
Sorrento Dome	200	200
Sulphur Dome	1,600	1,700
Sweet Lake	50	100
Vinton	4,300	4,200
Others	750	800
Total, Coastal Louisiana	18,350	19,300
Decrease		950
Total, Gulf Coast	146,500	151,150
Decrease		4,650

ROCKY MOUNTAIN

Wyoming

	July 20	July 13
Big Muddy	2,300	2,300
Elk Basin	750	650
Grass Creek	2,200	2,100
Labarge	2,500	1,750
Lance Creek	200	200
Lost Soldier	4,100	3,900
Oregon Basin	5,600	5,600
Rock Creek	2,350	2,400
Salt Creek	29,500	31,050
Others	3,600	3,750
Total, Wyoming	53,100	53,700
Decrease		600

Montana

	July 20	July 13
Cat Creek	1,450	1,450
Pondera	3,200	3,200
Sunburst	6,850	6,850
Others	100	100
Total, Montana	11,600	11,600

Colorado

	July 20	July 13
Florence	900	850
Fort Collins	2,200	2,150
Moffat (Craig)	1,500	1,450
Others	2,300	2,350
Total, Colorado	6,90	6,800
Increase		100

New Mexico

	July 20	July 13
Artesia	900	800
Hogback	100	100
Rattlesnake	800	1,400
Others	450	450
Total, New Mexico	2,250	2,750
Decrease		500
Total, Rocky Mountain	73,850	74,850
Decrease		1,000

CALIFORNIA

	July 20	July 13
Dominguez	10,500	9,800
Elwood-Goleta	27,600	28,300
Huntington Beach	44,000	45,000
Inglewood	23,000	23,000
Kettleman Hills	3,400	3,400
Long Beach	172,000	173,000
Midway-Sunset	66,000	66,000
Roseerane	6,000	6,000
Santa Fe Springs	282,000	280,000
Seal Beach	47,500	49,000
Torrance	13,000	13,000
Ventura Avenue	58,500	59,000
Others	126,800	127,100
Total, California	880,300	882,600
Decrease		2,300

EASTERN

	July 20	July 13
(Including Ill., Ind., Ky., Ohio, W. Va., Pa., and N. Y.)	122,000	120,900
Increase		1,100

general counsel, Gillette Hill, vice president, and Mrs. Hill on June 26 flew to Los Angeles in a Lockheed owned by Erle P. Halliburton, where they inspected the ship built for the Independent company. Tom Parks was pilot on both trips.

The trip to Los Angeles was made in one day, the party of four leaving Tulsa about 4 a.m. June 26 and arriving at Los Angeles about 4 p.m. Tulsa time. The ship bought for the Independent company was tested after which the party started on the return trip. They left Los Angeles the morning of July 1, spent the night in El Paso, and reached Tulsa at 3:45 p.m. July 2.

The ship is equipped with a Wasp motor and has a cruising speed of 135 miles an hour. It carries at present two 50-gallon gasoline tanks in the wings, but an order has been placed for an additional tank which will increase the capacity to 200 gallons. The ship can accommodate four passengers and the pilot comfortably, but if necessary can carry five passengers and pilot. It has a second instrument board in the passenger compartment.

The plane has been painted in the company colors, blue and white. Mr. Martin, E. H. Moore, president, R. B. Pringle, vice president and L. F. Craig left July 4 in the plane for Des Moines and Omaha.

They brought the new Lockheed mono-coupe for the Independent Oil & Gas Co. from Los Angeles to Tulsa. Left to right: Tom Parks, pilot; Mrs. Gillette Hill; Gillette Hill, vice president; and Villard Martin, general counsel

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T. T. Pendleton of the Fort Worth producing firm of Roeser-Pendleton, Inc., has purchased a six-passenger Stinson-Detroiter cabin monoplane, powered with a Wright J-5 engine of 220 horsepower. The purchase was made from the Texhoma Flying Service, which handles Stinson-Detroiter distribution for Texas and Oklahoma. Mr. Pendleton uses the plane frequently for trips from Fort Worth to Albany and return in connection with development of the Cook pool in Shackleford county, central west Texas.

The value of company-owned and operated airplanes for corporate use was demonstrated recently when a large recording of counterparts of a bond indenture was made in California in one day.

At 4 a.m. June 19, counterparts of this indenture which covered a $25,000,000 convertible 6 per cent bond issue of the Richfield Oil Co., of California, were received from the printers' in Los Angeles. To meet the legal requirements it was necessary that these counterparts be filed in each of the 44 counties of California in which the company owns property.

Using ordinary mail transportation to various county seats, it would have taken six days before these recordings could have been completed, at a loss of approximately $40,000 in interest charges.

At 5:30 three Richfield planes left Vail field in Los Angeles, carrying company officials who hoped to have completed all the recordings by night. At such points at which communities lacked airports, the papers were dropped in aluminum sealed tubes by parachutes to branch managers who relayed them by automobile to the county seats.

By 8:15 of the same day the last of the papers had been filed marking the successful completion of an unusual feat.

A hangar, 80 x 100 feet, with a housing capacity of six to 10 planes, has been completed at the Newark, N. J. airport of the Standard Oil Co. of New Jersey. On the side of the hangar is a lean-to, which has been fixed up for a filling station.

The company now operates three planes: a Sikorsky S-38 amphibion, the most recent addition, a Lockheed-Vega and a Curtiss Robin. The Lockheed-Vega just returned from a European air tour, the Sikorsky from the Pacific Coast, and the Curtiss-Robin from a tour of the eastern seaboard.

The twin-motored Sikorsky amphibion was chosen with the factor of safety in mind. It will be used extensively on surveys and inspection tours and in the transportation of directors and other company officials on quick trips out of town, according to the April edition of "The Lamp," company publication.

This plane's fuselage and floats are painted red with a white line. The word "Standard" is lettered in white on either side of the hose.

It is an eight-passenger plane and carries pilot and mechanic.

The first air route map over which passengers are to fly has been handed out to customers of the Southwest Air Fast Express, Tulsa, commonly known as SAFE way.

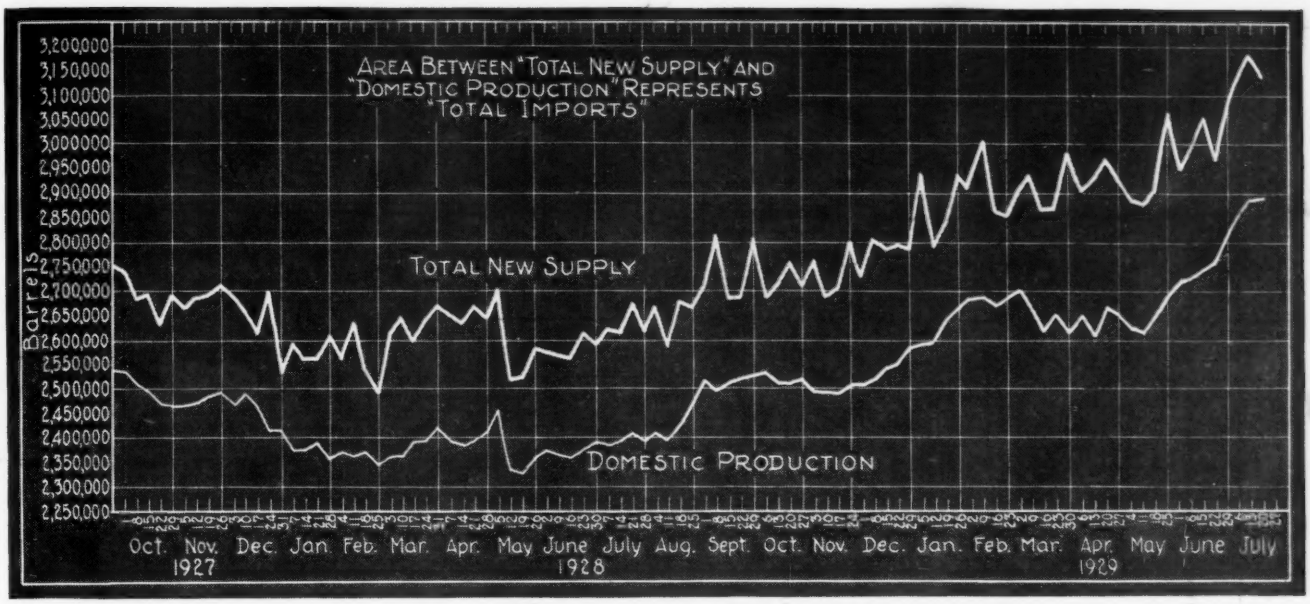
On this map, prominent buildings and other landmarks are identified. Air distances in each direction and rail lines are shown, and a table of various ground speeds enables the passengers to compute the distance covered by the plane in any given time.

The international map was used as a base in drafting the air maps and a representative of the map company flew all divisions of the line to check the route and indicate location of objects which might be of interest to aerial passengers.

Erle P. Halliburton, of the Halliburton Oil Well Cementing Co., Duncan, Okla., is president of SAFE way.

Government flying fields in the Eighth Corps area will get supplies from the Humble Oil & Refining Co., Houston, under contract recently announced. Two grades of gasoline will be supplied, "Flashlike Aviation" and "Flashlike Ethyl Aviation." Deliveries will be made at Brooks field, San Antonio; Biggs field, Fort Bliss, El Paso; Fort Crockett field, Galveston; Dodd field, Kelly field and the intermediate Duncan field, San Antonio; and Fort Sill, Okla.

Daily Average Crude Oil Production and Imports



Daily average gross output of United States, by fields, for week ending with dates below as compiled by American Petroleum Institute

PRODUCTION SUMMARY

	July 20	July 13
Production east of Rockies	2,013,650	2,009,150
Increase		4,500
Total production in U. S.	2,893,950	2,891,750
Increase		2,200
Crude oil imports	245,714	301,000
Decrease		55,286
Total crude supply	3,139,664	3,192,750
Decrease		53,086

OKLAHOMA

	July 20	July 13
Allen Dome	25,150	24,950
Asher	12,650	9,750
Blackwell	3,750	3,850
Bowlegs	34,550	33,600
Braman	3,850	3,800
Bristow-Slick	20,650	19,700
Burbank	19,600	19,700
Carr City	13,900	13,800
Cromwell	8,050	8,100
Cushing	18,600	18,550
Davenport	1,400	1,450
Duncan District	7,500	7,250
Earlsboro	81,800	82,650
East Seminole	5,550	5,250
Fox	1,400	1,400
Garber	5,650	5,750
Graham	4,300	4,200
Healdton	13,000	12,850
Hewitt	7,950	8,100
Hubbard	1,800	1,800
Little River	76,850	80,200
Logan County	21,050	21,000
Maud	11,600	11,900
Mission	32,200	33,850
North Okmulgee	12,800	12,800
Oklahoma City	21,450	19,700
Osage (outside Burbank)	26,100	26,500
Papoose	3,300	3,300
Pearson	1,200	1,250
St. Louis	72,300	75,150
Scholem-Alechem	12,700	12,700
Searight	11,350	11,850
Seminole	33,750	34,400
South Okmulgee	8,350	8,350
Thomas	850	900
Tonkawa	9,550	9,850
Wewoka	4,700	4,750
Yale-Jennings	7,000	6,950
Others	59,500	59,000
Total, Oklahoma	717,700	720,900
Decrease		3,200

KANSAS

	July 20	July 13
Augusta-Fox Bush	3,100	3,100
Churchill	6,100	5,900
El Dorado-Towanda	12,900	12,900
Florence-Covert	950	950
Greenwood County	21,100	21,150
Oxford	4,500	4,500
Peabody-Elbing	2,800	2,800
Rainbow Bend	1,050	1,050
Russell	3,200	3,200
Sedgwick County	36,500	33,250
Others	32,800	32,500
Total, Kansas	125,000	121,300
Increase		3,700

NORTH LOUISIANA

	July 20	July 13
Bellevue	600	600
Caddo, light	9,450	9,500
Caddo, heavy	3,400	3,250
Cotton Valley	2,550	2,500
De Soto and Red River	3,700	3,450
Elm Grove	550	600
Haynesville	4,950	5,000
Homer	3,900	3,900
Pleasant Hill	500	550
Urania	6,300	6,100
Others	250	250
Total, North Louisiana	36,150	35,700
Increase		450

ARKANSAS

	July 20	July 13
Champagnolle	7,500	7,400
El Dorado	4,650	4,550
Lisbon	1,250	1,200
Nevada	1,000	1,050
Smackover, light	6,200	6,200
Smackover, heavy	46,950	47,650
Stephens	1,000	1,000
Others	100	100
Total, Arkansas	68,650	69,150
Decrease		500

TEXAS (Outside Gulf Coast)

Panhandle District

	July 20	July 13
Carson County	7,100	7,200
Gray County	56,050	55,750
Hutchinson County	24,500	25,150
Wheeler County	600	600
Others	1,000	1,100
zTotal, Panhandle Texas	89,250	89,800
Decrease		550

North Texas

	July 20	July 13
Archer County	19,000	18,350
Burkburnett	8,700	8,800
Electra	11,800	12,000
Iowa Park and K. M. A.	4,700	4,800
Montague-Cooke	13,100	12,600
Wilbarger	27,000	26,100
Others	800	700
Total, North Tex	85,100	83,350
Increase		1,750

West Central Texas

	July 20	July 13
Brown County	7,500	7,800
Callahan County	4,200	4,300
Coleman County	6,300	4,350
Eastland-Desdemona	7,000	6,800
Jack County	3,300	3,000
Palo Pinto County	400	300
Shackelford County	11,200	11,600
Stephens County	6,600	6,100
Throckmorton County	800	700
Young County	11,500	8,950
Others	600	600
Total, West Central Texas	59,400	54,500
Increase		4,900

West Texas

	July 20	July 13
Crane and Upton Counties	45,200	45,400
Crockett County	2,100	1,900
Howard County	43,200	42,900
Jones County	3,400	3,100
Mitchell and Scurry Counties	2,700	2,700
Pecos County	139,900	135,400
Reagan County	18,100	17,900
Winkler County	140,200	141,500
Others	1,400	1,500
Total, West Texas	396,200	392,300
Increase		3,900

East Central Texas

	July 20	July 13
Boggy Creek	2,800	2,600
Corsicana-Powell	7,200	7,550
Currie	400	350
Mexia	5,400	5,450
Nigger Creek	400	400
Richland	350	400
Wortham	950	1,000
Total, East Central Texas	17,500	17,750
Decrease		250

Southwest Texas

	July 20	July 13
Dale	400	400
Laredo District	11,000	10,950
Luling	11,300	11,400
Lytton Springs	1,000	900
Salt Flat	47,250	48,500
Somerset	1,450	1,600
Others	3,950	3,750
Total, Southwest Texas	76,350	77,500
Decrease		1,150
Total, Texas (Outside Gulf Coast)	723,800	715,200
Increase		8,600

GULF COAST

Coastal Texas

	July 20	July 13
Barbers Hill	7,500	8,500
Batson	1,250	1,250
Big Creek	4,200	4,500
Blue Ridge	4,000	3,400
Boling	1,400	1,500
Damon Mound	600	600
Goose Creek	5,500	5,600
Hull	7,900	7,800
Humble	6,600	6,300
Orange County	2,850	2,800
Pierce Junction	17,150	19,200
Raccoon Bend	6,700	6,600
Saratoga	900	900
Somerville	2,500	2,700
Sour Lake	2,700	2,800
South Liberty	6,100	6,100
Spindletop	27,400	29,300
Sugarland	13,300	12,700
West Columbia	5,850	6,100
Others	3,750	3,200
Total, Coastal Texas	128,150	131,850
Decrease		3,700

Coastal Louisiana

	July 20	July 13
East Hackberry	2,800	3,150
Edgerly	700	700
Evangeline	2,250	2,500
Lockport	3,600	3,600
Old Hackberry	2,100	2,350
Sorrento Dome	200	200
Sulphur Dome	1,600	1,700
Sweet Lake	50	100
Vinton	4,300	4,200
Others	750	800
Total, Coastal Louisiana	18,350	19,300
Decrease		950
Total, Gulf Coast	146,500	151,150
Decrease		4,650

ROCKY MOUNTAIN

Wyoming

	July 20	July 13
Big Muddy	2,300	2,300
Elk Basin	750	650
Grass Creek	2,200	2,100
Labarge	2,500	1,750
Lance Creek	200	200
Lost Soldier	4,100	3,900
Oregon Basin	5,600	5,600
Rock Creek	2,350	2,400
Salt Creek	29,500	31,050
Others	3,600	3,750
Total, Wyoming	53,100	53,700
Decrease		600

Montana

	July 20	July 13
Cat Creek	1,450	1,450
Pondera	3,200	3,200
Sunburst	6,850	6,850
Others	100	100
Total, Montana	11,600	11,600

Colorado

	July 20	July 13
Florence	900	850
Fort Collins	2,200	2,150
Moffat (Craig)	1,500	1,450
Others	2,300	2,350
Total, Colorado	6,90	6,800
Increase		100

New Mexico

	July 20	July 13
Artesia	900	800
Hogback	100	100
Rattlesnake	800	1,400
Others	450	450
Total, New Mexico	2,250	2,750
Decrease		500
Total, Rocky Mountain	73,850	74,850
Decrease		1,000

CALIFORNIA

	July 20	July 13
Dominguez	10,500	9,800
Elwood-Goleta	27,600	28,300
Huntington Beach	44,000	45,000
Inglewood	23,000	23,000
Kettleman Hills	3,400	3,400
Long Beach	172,000	173,000
Midway-Sunset	66,000	66,000
Rosecrane	6,000	6,000
Santa Fe Springs	282,000	280,000
Seal Beach	47,500	49,000
Torrance	13,000	13,000
Ventura Avenue	58,500	59,000
Others	126,800	127,100
Total, California	880,300	882,600
Decrease		2,300

EASTERN

	July 20	July 13
(Including Ill., Ind., Ky., Ohio, W. Va., Pa., and N. Y.)	122,000	120,900
Increase		1,100

Compilation Of Mid-Continent Refinery Operations

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National Petroleum News

Mid-Continent Refinery Operations Week Ended July 19 (By Telegraph)

	Kansas	Oklahoma	North & Cent. Texas	West Texas	North La.-Ark.	Total Week Ended July 19
Plants Reporting.....	12	29	25	15	12	93
Da. Av. Cap. (Bbls.)..	92,000	160,200	86,600	81,500	54,900	475,200
Da. Cracking Capacity	30,700	52,600	17,200	5,000	22,700	128,200
Da. Av. Crude Runs..	58,510 — 4.3	113,542 + 0.3	60,644 — 3.4	52,468 — 3.9	67,882 + 6.5	353,046 — 0.7
Da. Av. Other Oils...	9,978 + 31.2	9,339 +293.3	3,500 + 24.3	4,632 + 18.9	3,616 + 27.8	31,065 + 45.7
GASOLINE—Gallons						
Stocks, July 12.....	27,558,000	71,453,000	17,829,000	7,684,000	13,136,000	137,660,000
Prod. 7-12 to 7-19....	9,474,000 — 7.7	17,981,000 — 0.2	7,997,000 — 2.4	4,267,000 — 11.3	6,496,000 + 3.4	46,215,000 — 2.8
Ship. 7-12 to 7-19....	12,026,000 — 6.5	19,608,000 — 2.3	10,049,000 + 27.7	4,961,000 — 10.0	3,936,000 — 35.3	50,580,000 — 3.5
Stocks, July 19.....	25,006,000 — 9.3	69,826,000 — 2.3	15,777,000 — 11.5	6,990,000 — 9.1	15,696,000 + 19.5	133,295,000 — 3.2
Ratio Sales to Prod...	126.9%	109.0%	125.7%	116.3%	60.6%	109.4%
KEROSENE—Gallons						
Stocks, July 12.....	8,932,000	6,316,000	2,348,000	32,000	955,000	18,583,000
Prod. 7-12 to 7-19....	1,910,000 + 25.6	2,331,000 — 4.3	1,542,000 — 13.0	18,000 — 52.6	308,000 — 21.4	6,109,000 + 2.6
Ship. 7-12 to 7-19....	2,074,000 + 33.2	2,312,000 — 4.6	1,292,000 — 30.0	6,000 — 72.7	290,000 — 54.0	5,974,000 — 7.8
Stocks, July 19.....	8,768,000 — 1.8	6,335,000 + 0.3	2,593,000 + 10.6	44,000 + 37.5	973,000 + 1.9	18,718,000 + 0.7
Ratio Sales to Prod...	103.6%	99.2%	83.8%	33.3%	94.2%	97.8%
STOVE DISTILLATE—Gallons						
Stocks, July 12.....	2,387,000	5,363,000	661,000	115,000	30,000	8,556,000
Prod. 7-12 to 7-19....	108,000 — 71.4	842,000 — 1.8	161,000 — 7.0	79,000 + 12.2	126,000 + 75.0	1,316,000 — 10.8
Ship. 7-12 to 7-19....	78,000 — 73.5	499,000 +565.3	97,000 — 40.1	109,000 — 4.4	97,000 — 31.2	880,000 + 12.0
Stocks, July 19.....	2,417,000 + 1.3	5,706,000 + 6.4	725,000 + 9.7	85,000 — 26.1	59,000 + 96.7	8,992,000 + 5.1
Ratio Sales to Prod...	72.2%	59.3%	60.2%	138.0%	77.0%	66.8%
GAS OIL—Gallons						
Stocks, July 12.....	10,281,000	29,249,000	3,626,000	13,352,000	7,171,000	63,679,000
Prod. 7-12 to 7-19....	1,582,000 + 2.9	1,912,000 +145.1	1,081,000 + 10.6	450,000 — 3.6	2,680,000 + 34.4	7,705,000 + 33.9
Ship. 7-12 to 7-19....	800,000 — 45.0	1,141,000 +115.3	555,000 — 55.1	1,304,000 — 33.5	1,300,000 — 45.6	5,100,000 — 28.1
Stocks, July 19.....	11,063,000 + 7.6	30,020,000 + 3.3	4,152,000 + 14.5	12,498,000 — 6.4	8,551,000 + 19.2	66,284,000 + 4.1
Ratio Sales to Prod...	50.6%	59.7%	51.3%	29.0%	48.5%	66.2%
FUEL OIL—Gallons						
Stocks, July 12.....	14,546,000	60,472,000	52,565,000	33,808,000	28,098,000	189,489,000
Prod. 7-12 to 7-19....	5,490,000 — 3.4	6,088,000 — 15.0	6,801,000 — 3.4	8,203,000 — 7.0	9,296,000 + 4.9	35,878,000 — 4.5
Ship. 7-12 to 7-19....	4,569,000 — 35.9	7,619,000 + 7.7	7,515,000 + 85.5	3,983,000 — 57.3	9,537,000 — 1.0	33,223,000 —10.7
Stocks, July 19.....	15,467,000 + 6.3	58,941,000 — 2.5	51,851,000 — 1.4	38,028,000 + 15.1	27,857,000 — 0.9	192,144,000 + 1.4
Ratio Sales to Prod...	83.2%	125.1%	110.5%	48.6%	102.6%	92.6%

Gasoline Produced by Various Methods, Week Ended July 19

	Kansas	% of Total	Oklahoma	% of Total	North & Cent. Texas	% of Total	West Texas	% of Total	Louisiana-Arkansas	% of Total	Total	% of Total
Straight Run.....	5,966,000	63.0	11,645,000	64.8	5,730,000	71.7	4,253,000	91.9	2,318,000	35.7	29,912,000	63.9
Cracked.....	3,141,000	33.1	5,189,000	28.9	1,764,000	22.1	215,000	4.6	3,581,000	55.1	13,890,000	30.0
Natural.....	367,000	3.9	1,147,000	6.3	503,000	6.2	159,000	3.5	597,000	9.2	2,773,000	6.1
Total.....	9,474,000		17,981,000		7,997,000		4,627,000		6,496,000		46,575,000	

+ or — columns are % change over previous week.

Gasoline Stocks Again Lowered by 4,000,000 Gallons

Staff Special—By Telegraph
TULSA, July 23

GASOLINE stocks at 93 Mid-Continent refineries that report their operating statistics weekly to NATIONAL PETROLEUM NEWS, were reduced more than 4,000,000 gallons in the week ended July 19. This was the second consecutive week in which gasoline stocks were lowered by more than 4,000,000 gallons.

Gasoline production was only 1000 gallons less than in the week ended July 12 although charges of crude oil were reduced 2500 barrels daily average. Only in the Louisiana-Arkansas district was gasoline output more last week than in the preceding week. Louisiana-Arkansas refiners were the only ones to increase their still charges last week.

Mid-Continent refiners are reaping the benefits of their reduction recently of gasoline prices in order to stimulate buying, although shipments were not

Summary for the Month

Production and shipments, all reporting refineries, for four weeks ended July 19. Changes in stocks figured from June 21.

GASOLINE

	Gallons
Production	189,022,000
Shipments	198,873,000
Net change in stocks	—9,851,000
Ratio sales to production	105.2%

KEROSENE

	Gallons
Production	24,949,000
Shipments	24,572,000
Net change in stocks	+377,000
Ratio sales to production	98.5%

STOVE DISTILLATE

	Gallons
Production	5,093,000
Shipments	1,921,000
Net change in stocks	+3,122,000
Ratio sales to production	38.1%

GAS OIL

	Gallons
Production	30,043,000
Shipments	30,681,000
Net change in stocks	—648,000
Ratio sales to production	102.1%

FUEL OIL

	Gallons
Production	148,287,000
Shipments	147,386,000
Net change in stocks	+901,000
Ratio sales to production	99.4%

so large last week as the week before.

More kerosene was cut last week than in the week before and shipments, because it is now harvest time, were a third larger. Because of the 25.6 per cent increase in kerosene production which stocks were increased 130,000 gallons.

Stove distillate production was greatly curtailed but there was a small gain in stocks.

A third more gas oil was produced than in the preceding week but shipments were down and stocks increased 2,600,000 gallons.

Fuel oil demand slumped and stocks increased 2,600,000 gallons also.

June Cuts "Gas" Stocks 3,160,000 Barrels

NEW YORK, July 22.—An increase of 1,352,000 barrels in pipe line and tank farm gross domestic crude stocks east of the Rocky Mountains was reported for June in a preliminary report of the American Petroleum Institute. This compares with a decline of 927,000 barrels in crude stocks in May.

The largest decrease in gasoline stocks so far this year occurred in June when stocks of this commodity declined 3,160,000 barrels at refineries covering approximately 85 per cent of the operating capacity east of California. Gasoline stocks in May had fallen off 2,451,000 barrels.

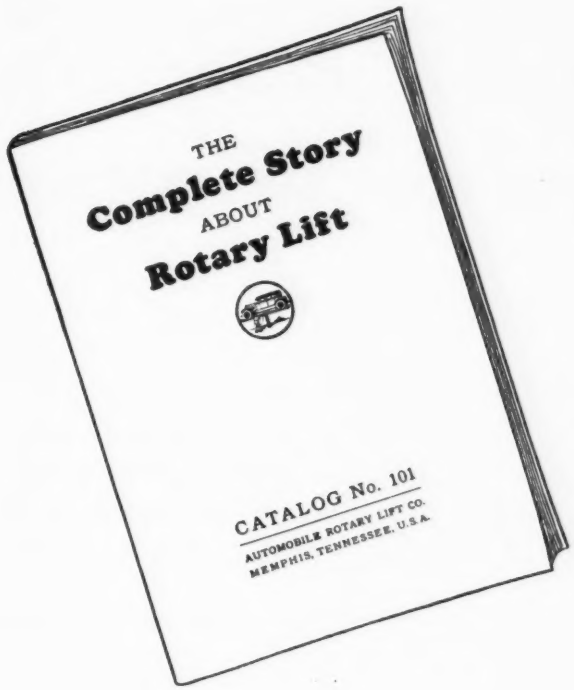
Stocks of kerosene east of California increased 639,000 barrels in June and gas and fuel oil stocks 1,897,000 barrels. This compares with an increase of 63,000 barrels in kerosene stocks in May and an increase of 1,840,000 barrels in gas and fuel oil stocks in May.

Lubricating oil stocks fell off 297,000 barrels in June, compared with a decrease of 178,000 barrels in May.

Refinery stocks of foreign crude oil declined 1,022,000 barrels in June compared with a decrease of 679,000 barrels in May. Domestic crude stocks gained 975,000 barrels, compared with a gain of 389,000 barrels in May.

All refinery stocks showed a net increase of 30,000 barrels in June, compared with net increase of 449,000 barrels in May.

TULSA, July 22.—The Petroleum Safety Council will hold its next meeting at Bartlesville, July 26, according to an announcement by E. D. Murphey, president. The council will be the guest of Carl H. Martin, of the Phillips Petroleum Co., and the meeting will be held at the Hillcrest Country Club.



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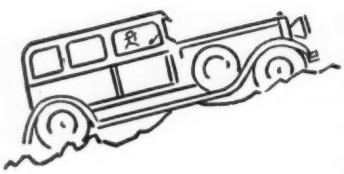

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Mid-Continent Gasolines Are Given Second Price Cut in Two Weeks

Staff Special
TULSA, July 20

THE second sizeable reduction in gasoline prices in as many weeks featured the Mid-Continent refinery market the third week of July. Reductions were made in each district after Oklahoma refiners on July 15 and 16 set the pace with price cuts of 0.50 cent a gallon.

Exporters were not interested in the market, although one buyer obtained a quantity from two or three Oklahoma refiners, primarily to give them storage relief.

Natural gasolines moved upward in price with considerable buying reported toward the last of the week.

Kerosene prices lost some ground with domestic demand light. An export inquiry was reported circulated in north Texas but no purchases had been reported prior to close of business July 20.

Distillates were advanced in price by a few refiners. Gas oils, fuel oils, neutral oils and wax were generally unchanged both in price and demand.

Gasolines

Three Oklahoma refiners at the opening of business July 15 announced reductions in price of 58-60 U. S. Motor 0.50 cent a gallon to 8 cents. This price was met July 16 by virtually all the other refiners in Oklahoma, and by July 17 price readjustments had been made in each district in the Mid-Continent.

The reduction was the second one since the July 4 holiday, and the new cut in price for Oklahoma since July 8 was 1.25 cents a gallon. The prevailing quotations prior to July 8 had been 9.25 cents for some time.

Gasoline shipments during the week of July 8 to 13 increased by several million gallons in the Mid-Continent as shown by weekly operations reports to NATIONAL PETROLEUM NEWS. This increase was attributed largely to the drastic reduction in gasoline prices, which allowed the Mid-Continent refiners to compete on a more equal price basis with districts outside of the Mid-Continent which had been getting a good share of the normal Mid-Continent business because of low quotations.

The reduction, in Oklahoma especially, resulted only in reductions in other districts and the Oklahoma refiners found themselves in virtually the same position they had been in when they were quoting 9.25 cents a gallon. Some of the refiners admittedly were overstocked on gasolines and the reduction the first of the week apparently was an effort to stimulate jobber buying.

It was too early when this was written to judge with any accuracy the effect of the price reduction this week but several sales managers reported orders and inquiries had been somewhat better. Shipments on contracts were reported larger in volume by several refiners while others said their contract shipments were about normal.

Reports received in the Mid-Continent the past two or three days would indicate the 8-cent quotations of Oklahoma and Kansas refiners for U. S. Motor were still somewhat above the price quoted from refining districts outside those two states. Considerable gasoline was reported offered from West Texas, north Texas, Louisiana and Arkansas at prices ranging, in the case of West Texas, from 7.25 cents a gallon, Group 3 basis, for resale, to 7.75 cents, Group 3, direct to the trade.

An export buyer bought from two or three Oklahoma refiners approximately 1,000,000 gallons of 64-66, 375 e.p. and 61-63, 390 e.p. gasoline but the details of the transactions were withheld. The deals were reported to have been made primarily to give the refiners some relief, and the prices paid accordingly were considerably under the going domestic market for those grades.

Natural Gasolines

Two or three sizeable purchases of natural gasoline were reported during the week. The first active buying developed on grades B and BB, with some of the purchases amounting to 25 to 50 cars. Prices were quick to respond although the upward movement was not as rapid as has been experienced at other times.

Grades A and AA then became active with at least two 100 car sales reported. Prices moved from a low of 6 cents to 6.50 cents a gallon before the close of the week.

Several manufacturers reported inquiries from refiners were more numerous than had been the case for the past several weeks. This was taken as an indication in some quarters that refiners were getting more gasoline orders and were preparing to work off some of the heavy ends of gasoline between now and the late fall when gasoline demand lets up.

The buying turned the picture around for naturals. Virtually all the distress goods were taken off the market and manufacturers for the most part reported they were in better shape than they had been for the past month or two.

Kerosenes

Price reductions were made in virtually all districts of the Mid-Continent except north Texas. Demand was reported slow in Oklahoma, Louisiana and Arkansas. Refiners in Kansas obtained a fair volume of business due to the harvest, but demand was not sufficiently strong to maintain prices in the face of competition from Oklahoma.

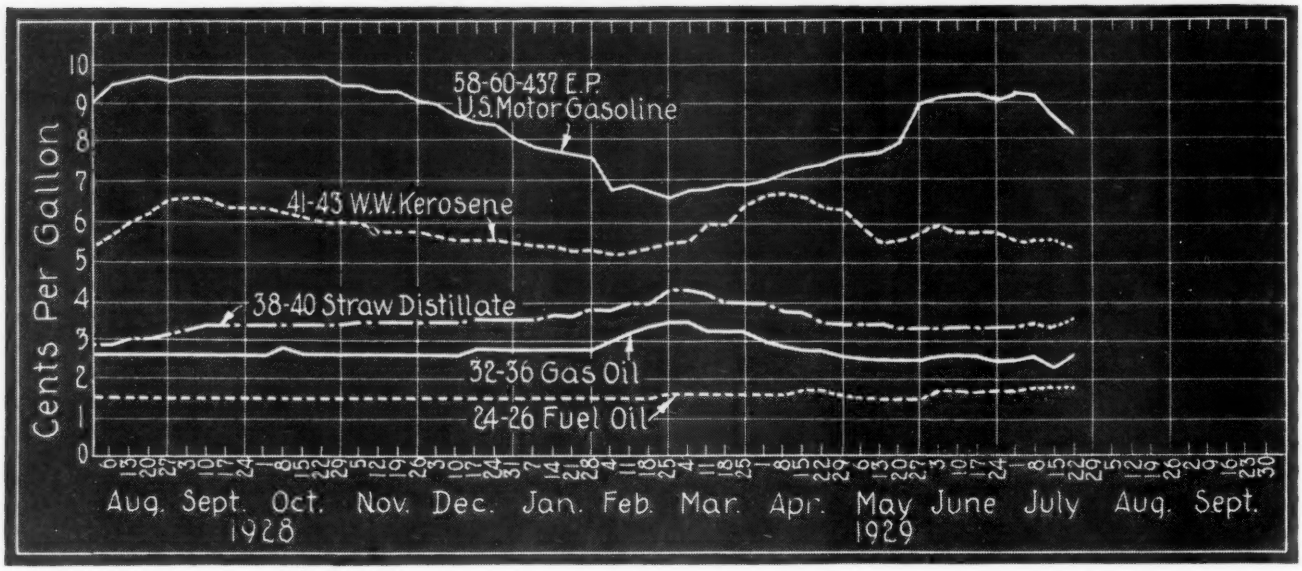
North Texas refiners reported a brisk demand from the Panhandle of Texas where harvesting is in progress at the present time.

An exporter early in the week inquired for 250,000 gallons of 41-43 kerosene but if any purchases were made they had not been revealed prior to close of business July 20. The price reported offered was 5 cents a gallon.

Distillates

Two or three Oklahoma refiners reported this week they had experienced a good distillate business. One refiner said he was selling around 30

Current Prices of Principal Mid-Continent Refined Products


Cents Per Gallon
58-60-437 E.P. U.S. Motor Gasoline
41-43 W.W. Kerosene
38-40 Straw Distillate
32-36 Gas Oil
24-26 Fuel Oil
Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept.
1928
1929

Prices shown are on Group 3 basis and extended to date shown in Refinery Market Tables Section of this issue

cars a month on the spot market at present and most of the goods was being used for tractor fuel. Another refiner reported inquiries were good and that from the information he had obtained the buying was primarily for storage. Prices were advanced late in the week 0.25 cent.

Gas oil was in fair demand for this season of the year, although buying was not as brisk for cracking purposes as it had been earlier in the summer.

Fuel Oils

No changes were noted in fuel oils. Demand was reported up to normal.

Bright stock was in active demand with at least two large manufacturers completely out of the market. Other refiners reported they were low on stocks. Other cylinder stocks and neutral oils were steady in demand and price. Wax was quiet at unchanged prices.

BALTIMORE, July 20.—Charles M. Linthicum, for many years in bulk sales work for the Sinclair Refining Co., Transcontinental Oil Co. and Deepwater Oil Refineries, Inc., is now in a similar capacity with Shell Eastern Petroleum Products, Inc., Baltimore.

Atlantic Buys Stations in New York State

CLEVELAND, July 22.—The Atlantic Refining Co. has purchased properties of the Mahaffey brothers of Corning, N. Y. The properties consist of eight bulk stations which supply 70 service stations either owned or under contract.

The Mahaffey bulk stations are located at Corning, Bath, Elmira, Hornell, Watkins, Wayland and Athens, N. Y., and Towanda, Pa. Distribution from the stations is through ten counties. Each of the properties was operated as a separate corporation. General offices were at Corning.

Boyd Mahaffey was president of the corporation and Dayton Mahaffey was vice president. The two brothers entered the oil business at Corning in 1921 and expanded rapidly. The last plant added was at Wayland in 1924.

Both of the brothers have been active in civic affairs in their community, heading many organizations and movements. They will remain in charge of the business for the Atlantic for the present.

Purchase of the system by the Atlantic is said to be the first purchase of that character in New York although not the first entrance of the company into that state. Some time ago the Atlantic started building an outlet for its products at Syracuse, it is reported. In the past the company has confined its activities to Pennsylvania, New England and the Southeast.

Free Gas Rewards Safe Drivers

MILWAUKEE, July 22.—To encourage safe driving, the Lindsay, McMillan Co., here, is cooperating with the city of Milwaukee by presenting five gallons of gasoline to five persons selected daily by the city traffic department for their observance of safety.

License numbers of the automobiles are published in a local newspaper and the winners are asked to call at the city editor's desk for a ticket good for five gallons of gasoline at any Lindsay, McMillan company filling station.

Prices 10 Years Ago
July 21, 1919

	Oklahoma	Penna.
58-60 U. S. Motor	18.50-18.75	20.50-21.00
80-84 Natural	23.50	.....
Kerosene (41-43 Okla.; 47 w. w. Pa.)	9.25-9.50	10.75-11.00
Fuel Oil (24-26 Okla.; 38-40 Pa.)	$.80	4.25-4.75
Crude (Okla. 35-35.9)	$2.25	$4.00
Chicago tank wagon	.....	21.00c

Prices A Year Ago
July 23, 1928

	Oklahoma	Penna.
58-60 U. S. Motor	8.6191c	10.50-11.00c
Grade A. Natural	9.50c	.....
Kerosene (Ok. 41-43; Pa. 47 w. w.)	4.75-5.00c	6.75-7.25c
Fuel Oil (Ok. 24-26; Pa. 36.40)	$0.65-$0.675	4.625-5.00c
Crude (Ok. 35-35.9)	$1.25	$3.10
Chicago tank wagon	.....	14.00c

Chicago Resale Market

Lower Prices Depress Gasoline Market

Staff Special
CHICAGO, July 20

GASOLINE prices suffered further setbacks in the Chicago resale market during the week ended July 20. Spot demand proved greatly disappointing to a majority of the trade, according to reports. The call for goods under contract, however, was stimulated considerably by the lower spot prices which prevailed.

Weather conditions were entirely favorable throughout the Standard of Indiana territory most of the week. There were very few periods of precipitation, and consumption continued at record breaking levels.

The Chicago trade consequently was at a loss to account for the slow movement of gasoline into distributing channels. A likely explanation of the situation, according to several sellers, was that even though jobbers had worked down their gasoline stocks materially, they were adhering strictly to a hand-to-mouth buying policy in the face of declining prices.

The further readjustment of gasoline prices by Oklahoma refiners to 8 cents this week following reductions to 8.50 cents last week failed to have the steadying effect on the market that the Chicago trade had looked for. Gasoline from other refining districts continued to cut in under the Oklahoma market, and the range for U. S. Motor as quoted out of Chicago on a Group 3 basis again widened considerably.

The dearth of export buying in north Texas continued and numerous low priced offers were received by Chicago resale agents from refiners in that district. Louisiana and Arkansas goods also figured in the competition to some extent, but not as much as material from north Texas.

The high for U. S. Motor gasoline throughout the week was 8 cents. During the early days of the week the low quotation was 7.875 cents but by Wednesday there was sufficient 7.75-cent goods offered to be representative of the general market. This figure was shaded 0.125-cent on odd cars Thursday. At least three sellers quoted 7.50 cents on Friday and Saturday. All the foregoing prices were made on the basis of f.o.b. Group 3 although goods in the majority of instances originated in other territories.

U. S. Motor gasoline also was quoted in the Chicago market for shipment out of East Chicago, Ind. at 7.625 cents on a Group 3 basis toward the end of the week.

Generally speaking, prices for the higher gravity gasolines followed U. S. Motor down but there were fewer distress offerings of these grades. In view of this, the differential between prices for U. S. Motor and 60-62, 437 end point gasoline, for example, was somewhat wider at times than is usually the case. Toward the end of the week, however, the situation had adjusted itself so that the customary differentials—0.125 to 0.25-cent—were again in effect between the various higher gravity grades.

Kerosene buying the past week was extremely spotty and taken in the aggregate a very small volume of goods sold for spot shipment. Prices were off 0.25 to 0.375-cent, with 41-43 water white offered rather liberally at 5.125 cents Friday and Saturday against last week's low of 5.50 cents.

The demand for heavier burning oils continued remarkably good for the season, according to most sellers. Distillate and gas oil were only nominally active in the spot market, but were very active from the standpoint of contracts for next season. Prices, generally speaking, showed no change.

A steady call from industrial users kept fuel oils fairly well pegged at the higher price levels recently established.

Powers is New Manager of Chestnut & Smith

TULSA, July 20.—A change in the management of the Chestnut & Smith Corp. whereby M. F. Powers, formerly of the Victor Gasoline Co. will be general manager of all the affiliated companies has been announced following a recent meeting of the board of directors.

The board authorized the appointment of a management committee and the committee named by the president consists of Thomas A. Chestnut, chairman, A. W. Leonard and R. C. Sharp. This committee will direct all business policies of the companies.

Chestnut & Smith Corp. and affiliated companies are large manufacturers of natural gasoline and certain types of natural gasoline plant equipment.

REIDSVILLE, N. C., July 19.—The Auto Service Stations, Inc., is a new company here that will operate gasoline service stations. E. D. Pitvher, of Spray, N. C., J. C. Brown of Madison, and B. C. Trotman, of Reidsville, organized the company at a capitalization of $50,000.

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MOTOR OIL
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All grades of lubricating oils and greases.

The National Refining Co.
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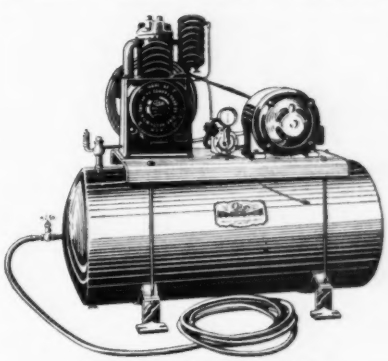

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Refinery Markets on Light Oils and Lubricants

Prices given below are in cents per gallon, F. O. B. refinery except where $ is shown

(These Refinery Prices compiled in the OIL PRICE HANDBOOK for a whole year)

Comparative Prices of 58-60 U. S. Motor Gasoline, 437 E. P., Group 3 and Point of Origin, to Jobbers Only

In Effect July 22

	Price F.O.B. Group 3	*Price F.O.B. Point of Origin*	*If for Particular Destination*
Oklahoma	8.0104 (Wt. Avg.)	8.0104 (Wt. Avg.)	
Kansas	8.00		S. O. Neb. & Ind. Ter., etc.
Kansas		8.2500 (Wt. Avg.)	Kansas only.
North Texas	7.75-7.875	7.625-7.875	
West Texas	7.75-7.875	7.50-800	
Louisiana-Ark.	7.75-8.00		Mich., Ohio & Indiana.
Louisiana-Ark.		8.50	State or differential haul.
Indiana-Illinois	8.00	*	S. O. Ind. territory except Detroit and vicinity. For Ohio on delivered basis only.

*Shipments made from E. Chicago, Ind., and Wood River, Ill., according to conditions and freight rates; no prices F.O.B. point of origin can be given.

Weighted Average Prices

OKLAHOMA

	July 22		July 15		July 8	
	No. of cars	Price	No. of cars	Price	No. of cars	Price
58-60 U. S. Motor, 437 e. p.	102	8.0104	79	8.4794	85	9.0353
60-62 437 e. p. gasoline	2	8.1875	No sales reported		2	9.3125
60-62 400 e. p. gasoline	4	8.4688	3	8.8333	2	9.3750
64-66 375 e. p. gasoline	1	8.0000	1	9.2500	No sales reported	

The reductions in quotations made early the past week by Oklahoma refiners is reflected in the above weighted average prices. The reductions since July 8 have amounted to 1.25 cents a gallon.

The weighted averages are compiled from spot sales direct to the trade and while reports have been general that goods were moved at considerably lower figures, repeated checks have indicated the gasoline did not meet U. S. Motor specifications. The relatively small amount of gasoline moved by the few non-reporting plants may have had some weight on the price had the sales been included but the difference would undoubtedly have been small.

KANSAS

	July 22		July 15		July 8	
	No. of cars	Price	No. of cars	Price	No. of cars	Price
58-60 U. S. Motor, 437 e. p.	5	8.2500	3	8.7500	25	9.5150

Refiners reduced quotations in Kansas along with the Oklahoma refiners early the past week. The prices shown above reflect the going market for gasoline for delivery in the state. The majority of refiners were quoting around 8.25 cents for Kansas delivery.

GASOLINE AND NAPHTHA

OKLAHOMA	Prices July 22	Prices July 15	Prices July 8
48-50 450 e.p. naphtha	7.75 – 8.00	8.25 – 8.75	8.625– 9.00
50-52 450 e.p. naphtha	7.75 – 8.00	8.25 – 8.75	8.625– 9.00
56-58 450 e.p. gasoline	7.75 – 7.875	8.125– 8.25	8.375– 8.75
58-60 450 e.p. gasoline	7.75 – 7.875	8.125– 8.375	8.50 – 8.875
64-66 390 e.p. gasoline	8.50 – 8.75	9.00 – 9.375	9.25 – 9.50
68-70 350-360 e.p. gasoline	9.00 – 9.25	9.50 – 9.625	9.625–10.00

†Prices nominal ††Only one refiner quoting *Quotations only

CHICAGO RESALE (F. o. b. Group 3, altho goods may originate elsewhere)

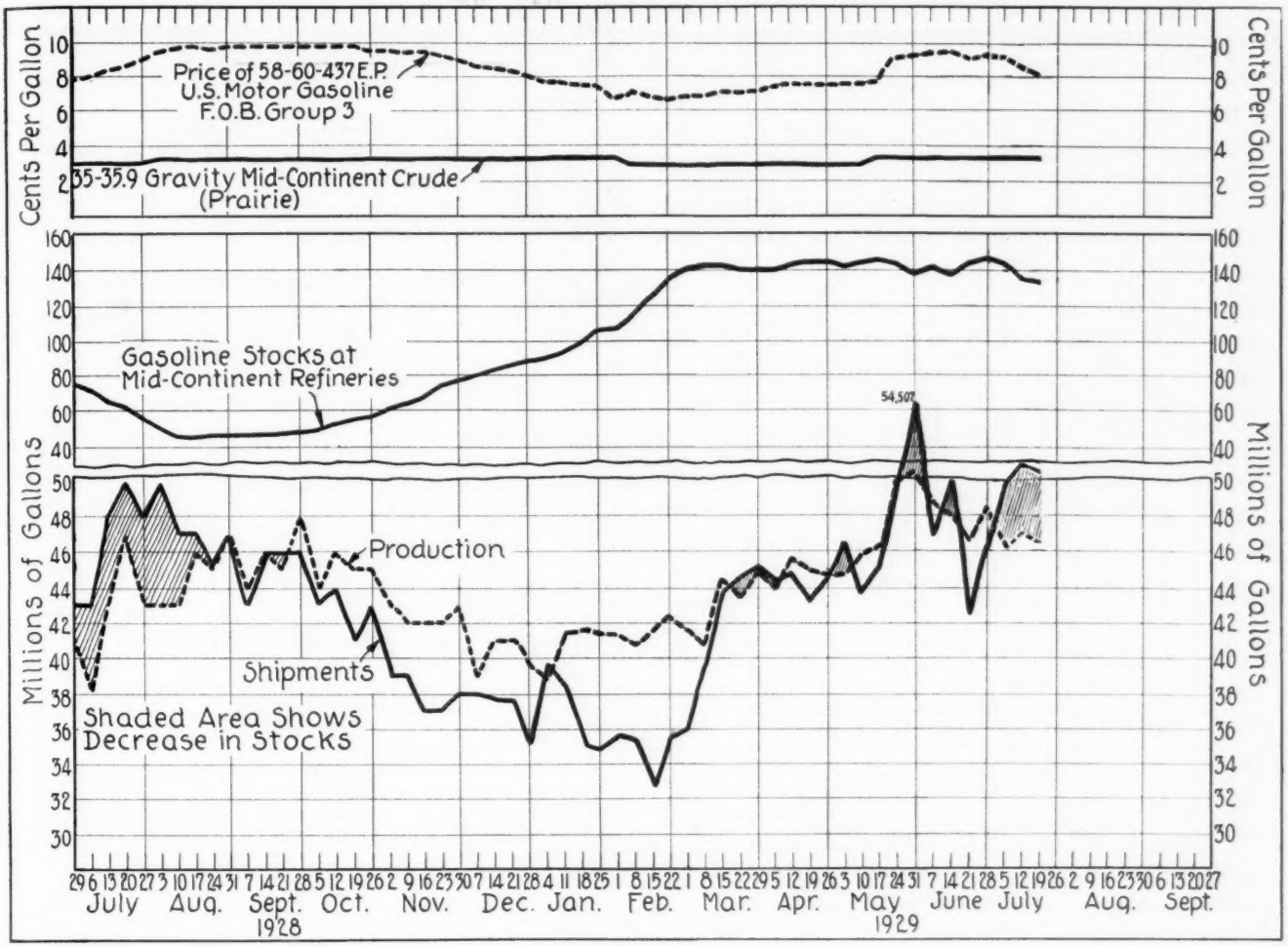
	Prices July 22	Prices July 15	Prices July 8
58-60 U.S. Motor, 437 e.p.	7.50 – 8.00	7.875– 8.50	8.125– 9.00
60-62 437 e.p. gasoline	7.75 – 8.125	8.25 – 8.625	8.50 – 9.375
60-62 400 e.p. gasoline	8.00 – 8.25	8.50 – 8.75	8.75 – 9.50
64-66 375 e.p. gasoline	8.25 – 8.75	8.875– 9.25	9.125– 9.75

(Continued on Page 106)

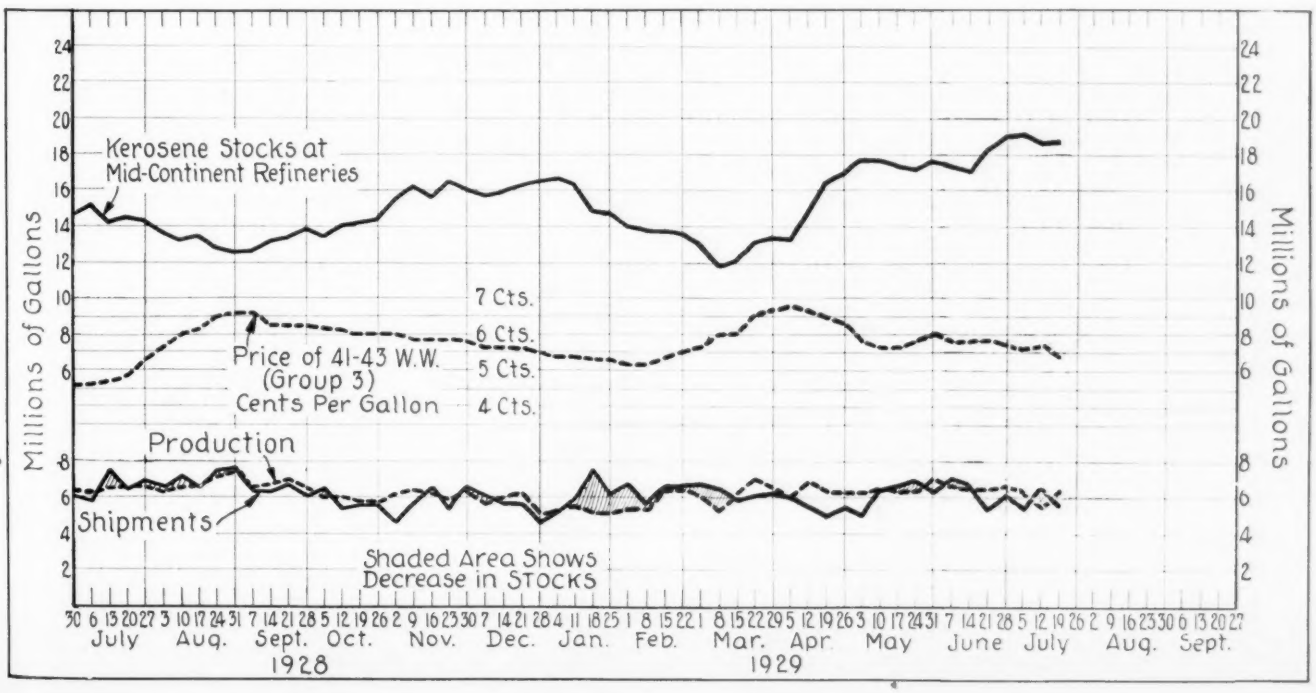
**Represents Both Sales and Quotations.

Barometer of Mid-Continent Refinery Market—Week Ending July 19

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, from Reports Made by 93 Plants to National Petroleum News


Cents Per Gallon
Price of 58-60-437 E.P. U.S. Motor Gasoline F.O.B. Group 3
35-35.9 Gravity Mid-Continent Crude (Prairie)
Gasoline Stocks at Mid-Continent Refineries
54,507
Millions of Gallons
Production
Shipments
Shaded Area Shows Decrease in Stocks
July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept.
1928
1929

Prices shown above are extended to date shown in Refinery Market and Crude tables in Market section of this issue and stocks, shipments and Production are extended to date as shown in the table on page 98



Refinery Markets on Light Oils and Lubricants

Prices given below are in cents per gallon, F. O. B. refinery except where $ is shown

(These Refinery Prices compiled in the OIL PRICE HANDBOOK for a whole year)

PENNSYLVANIA

	Prices July 22	Prices July 15	Prices July 8
52-54 Naphtha	9.25 – 9.75	9.25 – 9.75	9.50 –10.00
54-56 Naphtha	9.25 –10.00	9.25 –10.00	9.50 –10.25
58-60 U.S. Motor 437 e.p.	10.00 –10.50	10.25 –10.75	10.25 –10.75
60-62 400-410 e.p. gasoline	10.25 –11.00	10.25 –11.25	10.50 –11.00
64-66 390 e.p. gasoline	10.50 –11.25	10.50 –11.50	10.75 –11.50
68-70 Str-run gas 350-360 e.p.	10.75 –12.00	10.75 –12.50	11.50 –12.50

OHIO (Quotations of S. O. Ohio. 4c state tax to be added.)

U. S. Motor Gasoline

Ohio, delivery at any point	12.00	12.00	12.00

KANSAS (F. O. B. refinery Kansas destination)

60-62 400 e.p. gasoline	8.75	9.25 – 9.50	9.50 – 9.875
64-66 375 e.p. gasoline	9.00	9.50 – 9.75	9.75 –10.00

NORTH TEXAS

48-52 450 e.p. naphtha	7.50	8.00 – 8.25	8.125– 8.375
56-58 450 e.p. gasoline	7.50	7.75 – 8.25	8.00 – 8.375
58-60 450 e.p. gasoline	7.50	7.75 – 8.25	8.00 – 8.375
58-60 U.S. Motor 437 e.p.	7.625– 7.875	8.00 – 8.375	8.125– 8.50
60-62 400 e.p. gasoline	7.875– 8.125	8.25 – 8.75	8.50 – 9.00
64-66 390 e.p. gasoline	8.25	8.50 – 9.00	8.75 – 9.25
64-66 375 e.p. gasoline	8.375	8.625– 9.00	8.875– 9.375
68-70 350-360 e.p. gasoline	8.625– 8.75	9.00 – 9.375	9.25 – 9.75

****WEST TEXAS (F.o.b. West Texas refinery, for unrestricted shipment)**

50-52 naphtha	7.50	7.75 – 8.00	7.75 – 8.00
56-58 437 e.p. gasoline	7.50	7.75 – 8.25	8.00 – 8.25
58-60 437 e.p. gasoline	7.50 – 8.00	8.00 – 8.25	8.00 – 8.50

NORTH LOUISIANA (N. La., Ark., and Miss. destination)

61-63 390 e.p. gasoline	8.50	9.00	9.00

ARKANSAS (Ark., N. La. and Miss. destination)

58-60 U.S. Motor 437 e.p.	8.50	9.00	9.00

CALIFORNIA (3c tax to be added to California gasoline prices if used in state.)

54-58 U.S. Motor 437 e.p.	7.75 –10.00	7.75 –10.00	8.00 –10.25
58-61 375-400 e.p. gasoline	9.00 –11.00	10.00 –11.00	9.00 –11.25
42-45 Engine Distillate 445-480 e.p.	7.50 – 8.50	7.50 – 8.50	7.50 – 8.50

NATURAL GASOLINE

(Note: End point of all grades, not over 375 F. Corrosion test adopted Oct. 1, 1927; A.S.T.M. Method D130-27T; doctor test, July 2, 1928.)

OKLAHOMA

Grade AA, 80-87.9, 90% Recovery	6.25 – 6.50	6.375– 6.50	7.00 – 7.25
Grade A, 72-79.9, 90% Recovery	6.25 – 6.50	6.375– 6.50	7.00 – 7.25
Grade BB, 84-92, 85% Recovery	5.875– 6.00	*5.75	*6.25 – 6.375
Grade B, 76-83.9, 85% Recovery	5.875– 6.00	*5.75	*6.25 – 6.375
Grade C, 80-90, 78% Recovery	5.875– 6.00	*5.75	*6.25 – 6.375

NORTH TEXAS (F. o. b. Breckenridge)

Grade AA, 80-87.9, 90% Recovery	6.25 – 6.50	6.375– 6.50	7.00 – 7.25
Grade A, 72-79.9, 90% Recovery	6.25 – 6.50	6.375– 6.50	7.00 – 7.25
Grade BB, 84-92, 85% Recovery	5.875– 6.00	*5.75	*6.25 – 6.375
Grade B, 76-83.9, 85% Recovery	5.875– 6.00	*5.75	*6.25 – 6.375
Grade C, 80-90, 78% Recovery	5.875– 6.00	*5.75	*6.25 – 6.375

NORTH LOUISIANA (F. o. b. Monroe District)

Grade AA	†6.75	†6.75	†7.50
Grade BB	†6.00	†6.00	†6.625
Grade C	†6.00	†6.00	†6.625

CALIFORNIA

75-85, 375-390 e.p. blend	8.50 – 9.00	8.75 – 9.50	8.75 – 9.50

†Prices nominal ††Only one refiner quoting *Quotations only

BURNING OILS

PENNSYLVANIA

	Prices July 22	Prices July 15	Prices July 8
45 w.w. kerosene	6.25 – 6.50	6.25 – 6.75	6.25 – 6.75
46 w.w. kerosene	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00
47 w.w. kerosene	6.75 – 7.25	6.875– 7.50	7.00 – 7.50
300 mineral seal	7.25 – 7.375	7.25 – 7.375	7.25 – 7.75

CHICAGO RESALE (F. o. b. Group 3, altho goods may originate elsewhere)

41-43 w.w. kerosene	5.125– 5.50	5.375– 5.625	5.50 – 5.75

OKLAHOMA

41-43 w.w. kerosene	5.375– 5.50	5.50 – 5.75	5.50 – 5.75
42-44 w.w. kerosene	6.00	6.00 – 6.25	6.125– 6.25

KANSAS (F. O. B. refinery Kansas destination)

41-43 w.w. kerosene	6.00	6.00 – 6.25	6.125– 6.50
42-44 w.w. kerosene	6.25 – 6.50	6.25 – 6.50	6.50 – 6.75

NORTH TEXAS

40-42 w.w. kerosene	5.00	5.00	5.25
41-43 w.w. kerosene	5.125– 5.25	5.00 – 5.375	5.25 – 5.50

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

41-43 w.w. kerosene	6.00	6.125	6.125– 6.50
42-44 w.w. kerosene	6.25	6.375	6.625– 6.75

ARKANSAS (Ark., N. La. and Miss. destination)

41-43 kerosene	6.00	6.125	6.125– 6.50
42-44 kerosene	6.25	6.375	6.625– 6.75

CALIFORNIA

38-40 w.w. kerosene	5.25 – 6.00	5.50 – 6.50	5.50 – 6.25

NEUTRAL OIL

PENNSYLVANIA

Vis.	(Viscosity at 70°F.)		
200 No. 3 Assoc. Filt.	28.00 –29.00	28.00 –29.00	28.00 –29.50
180 No. 3 Assoc. Filt.	24.00 –26.00	24.00 –26.00	24.00 –26.00
150 No. 3 Assoc. Filt.	20.00 –21.50	20.00 –21.50	20.00 –21.50
	(Non Viscous)		
34 Grav. 330-340 Flash	7.50 – 8.00	7.50 – 8.00	7.50 – 8.00

****OKLAHOMA**

Vis.	Color	(Viscosity at 100°F.)		
100	No. 2	6.00 – 7.00	6.00 – 7.00	6.00 – 7.00
150	No. 3	7.50 – 8.25	7.50 – 8.25	7.50 – 8.25
150	No. 4	6.75 – 7.50	6.75 – 7.50	6.75 – 7.50
180	No. 3	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
180	No. 4	8.75 – 9.25	8.75 – 9.25	8.75 – 9.25
180	No. 5	8.50 – 9.00	8.50 – 9.00	8.50 – 9.00
200	No. 3	9.50 –11.00	9.50 –11.00	9.50 –11.00
200	No. 4	9.00 –10.25	9.00 –10.25	9.00 –10.25
200	No. 5	8.75 – 9.50	8.75 – 9.50	8.75 – 9.50
220	No. 3	12.50 –13.50	12.50 –13.50	12.50 –13.50
220	No. 4	12.25 –12.50	12.25 –12.50	12.25 –12.50
220	No. 5	11.50 –12.00	11.50 –12.00	11.50 –12.00
240	No. 3	13.00 –13.50	13.00 –13.50	13.00 –13.50
240	No. 4	12.00 –13.00	12.00 –13.00	12.00 –13.00
240	No. 5	11.00 –13.00	11.00 –13.00	11.00 –13.00
280	No. 3	14.00 –16.00	14.00 –16.00	14.00 –16.00
280	No. 4	13.00 –15.00	13.00 –15.00	13.00 –15.00
280	No. 5	12.00 –14.00	12.00 –14.00	12.00 –14.00
300	No. 5-6	16.00 –17.00	16.00 –17.00	16.00 –17.00

****Represents both sales and quotations.**

Refinery Markets Wax, Lubricants, Heavy Oil

Prices given below are in cents per gallon, F. O. B. refinery except where $ is shown

(For quick reference to Refinery Prices, get the OIL PRICE HANDBOOK, published annually)

GULF COASTAL

Vis.	Color	Prices July 22	Prices July 15	Prices July 8
		(Viscosity at 100°F., pour test 0)		
100	No. 2 Pale	6.75 – 7.25	6.75 – 7.25	6.75 – 7.25
200	No. 3 Pale	9.25 – 9.75	9.25 – 9.75	9.25 – 9.75
300	No. 3 Pale	10.50 –11.00	10.50 –11.00	10.50 –11.00
500	No. 3½ Pale	12.00 –12.50	12.00 –12.50	12.00 –12.50
750	No. 4 Pale	13.25 –13.75	13.25 –13.75	13.25 –13.75
200	No. 5½ Red Oil	8.50 – 9.00	8.50 – 9.00	8.50 – 9.00
300	No. 5½ Red Oil	9.75 –10.25	9.75 –10.25	9.75 –10.25
500	No. 6 Red Oil	11.00 –11.50	11.00 –11.50	11.00 –11.50
750	No. 6 Red Oil	12.00 –12.50	12.00 –12.50	12.00 –12.50

CALIFORNIA

Vis.	Color	(Viscosity at 100°F.)		
100	No. 3	9.50 –10.00	9.50 –10.00	9.50 –10.00
200	No. 3	11.50	11.50	11.50
300	No. 3	13.00	13.00	13.00
450	No. 3	15.50	15.50	15.50
550	No. 3	16.50	16.50	16.50
600	No. 3	17.00	17.00	17.00
200	No. 5	11.00	11.00	11.00
300	No. 5	12.00	12.00	12.00
400	No. 5	14.00	14.00	14.00
500	No. 5	15.00	15.00	15.00
600	No. 5	16.00	16.00	16.00
700	No. 7	18.00	18.00	18.00

CYLINDER STOCKS

****OKLAHOMA**

190-200D Vis. at 210° Brt. St.	37.00 –41.00	37.00 –41.00	37.00 –41.00
150-160D Vis. at 210° Brt. St.	36.00 –37.00	36.00 –37.00	36.00 –37.00
150-160E Vis. 210° Brt. St.	29.00 –33.00	29.00 –33.00	29.00 –33.00
600 St. Ref. Olive Green	16.00 –19.00	14.00 –19.00	14.00 –19.00
600 St. Ref. Dark Green	14.00 –16.00	14.00 –16.00	14.00 –16.00
Black Oil	5.00	5.00	5.00

PENNSYLVANIA (A. S. T. M. Tests)

600 Steam Refined, filterable	27.00 –29.00	28.00 –30.00	28.00 –30.00
650 Steam Refined	35.00 –37.00	35.00 –37.00	35.00 –39.00
600 Flash	37.00 –41.00	37.00 –41.00	37.00 –43.00
625 Flash	39.00 –45.00	39.00 –45.00	39.00 –45.00
600 Warren E	34.50 –36.50	35.00 –36.50	36.50 –37.00
600 Oil City E	32.50 –35.00	34.00 –36.00	35.00 –36.00
600 D Filtered	38.50 –40.00	38.50 –40.00	38.50 –41.00
Cold Test Stock, 40-50p. p., 140-150 vis. at 210° 540-550 flash, No. 8 color	52.00 –53.00	52.00 –53.00	50.00 –54.00
40-50 p.p., 140-150 vis. at 210°, 540-550 flash, No. 6-6½ color diluted	51.00 –52.00	51 00 –52.00	49.00 –52.00

WAX

PENNSYLVANIA (Per pound, New York)

122-124 white crude scale, a.m.p.	2.75 – 3.00	2.75 – 3.00	2.625– 3.00
124-126 white crude scale, a.m.p.	2.75 – 3.00	2.75 – 3.00	2.75 – 3.00

OKLAHOMA

**124-126 White Crude Scale, a. m. p.	2.50 – 2.75	2.50 – 2.75	2.50 – 2.75

CALIFORNIA

White crude scale, per pound, ton lots, a.m.p.	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50

DISTILLATE, GAS AND FUEL OIL

PENNSYLVANIA (For outside Pittsburgh district)

36-40 fuel oil	4.375– 5.00	4.50 – 5.00	4.375– 5.00
30-34 fuel oil	4.25 – 4.375	4.25 – 4.50	4.25 – 4.50
28-32 fuel oil	4.25 – 4.375	4.25 – 4.50	4.25 – 4.50

CHICAGO RESALE (F. o. b. Group 3, altho goods may originate elsewhere)

	Prices July 22	Prices July 15	Prices July 8
38-40 straw distillate	3.25 – 3.50	3.25 – 3.50	3.25 – 3.50
32-36 ordinary dark gas oil	2.375– 2.50	2.375– 2.50	2.375– 2.50
32-36 dark zero gas oil	2.50 – 2.75	2.50 – 2.75	2.50 – 2.75
32-36 straw zero gas oil	2.625– 2.875	2.625– 2.875	2.625– 2.875
28-30 zero fuel oil	$0.925–$0.95	$0.925–$0.95	$0.925–$0.95
28-30 fuel oil	$0.875–$0.90	$0.875–$0.90	$0.875–$0.90
24-26 fuel oil	$0.675–$0.725	$0.675–$0.725	$0.675–$0.725
18-22 fuel oil, low sulfur	$0.55 –$0.60	$0.55 –$0.60	$0.55 –$0.60
18-22 fuel oil, high sulfur	$0.50 –$0.55	$0.50 –$0.55	$0.50 –$0.55

OKLAHOMA

38-40 straw distillate	†3.50 – 3.75	†3.375– 3.50	†3.375– 3.625
36-38 straw distillate	†3.25	†3.125– 3.25	†3.125– 3.25
32-36 straw gas oil	2.50 – 2.625	2.50 – 2.625	2.50 – 2.625
32-36 dark gas oil	2.375– 2.50	2.375– 2.50	2.375– 2.50
32-36 straw zero gas oil	2.625– 2.75	2.625– 2.75	2.625– 2.75
28-30 zero fuel oil	$0.925– 0.95	$0.925– 0.95	$0.925– 0.95
28-30 fuel oil (in bbls.)	$0.875– 0.925	$0.875– 0.925	$0.875– 0.95
26-28 fuel oil (in bbls.)	$0.775– 0.85	$0.775– 0.85	$0.775– 0.85
24-26 fuel oil (in bbls.)	$0.70 – 0.825	$0.70 – 0.825	$0.70 – 0.80
22-26 fuel oil (in bbls.)	$0.60 – 0.65	$0.60 – 0.65	$0.60 – 0.65
18-22 fuel oil (in bbls.)	$0.525– 0.575	$0.525– 0.575	$0.525– 0.575
16-18 fuel oil (in bbls.)	$0.475– 0.525	$0.475– 0.525	$0.45 – 0.50
14-16 fuel oil (in bbls.)	$0.475– 0.525	$0.475– 0.525	$0.45 – 0.50

KANSAS (F. O. B. refinery Kansas destination)

38-40 straw distillate	3.375– 3.625	3.375– 3.625	3.375– 3.625
36-38 straw distillate	3.25 – 3.50	3.25 – 3.50	3.25 – 3.50
32-36 gas oil	2.50 – 2.75	2.50 – 2.75	2.50 – 2.75
24-26 fuel oil	$0.75 – 0.775	$0.75 – 0.775	$0.725– 0.775
18-22 fuel oil	$0.625– 0.70	$0.625– 0.70	$0.625– 0.70
10-14 fuel oil	$0.50 – 0.575	$0.50 – 0.575	$0.50 – 0.575

NORTH TEXAS

38-40 straw distillate	3.25 – 3.50	3.25 – 3.375	3.25 – 3.375
32-36 gas oil, cracked	2.25 – 2.375	2.25 – 2.375	2.25 – 2.375
32-36 St. reduced gas oil	2.375– 2.50	2.375– 2.50	2.375– 2.50
24-26 fuel oil (in bbls.)	$0.60 – 0.70	$0.65 – 0.70	$0.65 – 0.70
20-24 fuel oil	$0.65 – 0.70	$0.65 – 0.70	$0.65 – 0.70

****WEST TEXAS (F.o.b. West Texas refinery, for unrestricted shipment)**

34-38 gas oil	2.25 – 2.375	2.25 – 2.375	2.375– 2.50
30-32 gas oil	2.00 – 2.125	2.00 – 2.125	2.00 – 2.25
18-22 fuel oil	$0.375– 0.45	$0.375– 0.45	$0.40 – 0.45

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

32-36 gas oil, dark	2.50 – 2.75	2.50 – 2.75	2.50 – 2.75
32-36 gas oil, straw	2.75 – 3.00	2.75 – 3.00	2.75 – 3.00
14-16 fuel oil (in bbls.)	0.65 – 0.75	$0.70 – 0.80	$0.75 – 0.80

ARKANSAS (Ark., N. La. and Miss. destination)

32-36 gas oil, straw	3.00	3.00	3.00
32-36 gas oil	3.00	3.00	3.00
28-30 g†s oil	2.50 – 2.75	2.50 – 2.75	2.50 – 2.75
14-16 fuel oil	$0.65 – 0.75	$0.70 – 0.80	$0.75 – 0.80

CALIFORNIA (F. o. b. San Joaquin Valley. At San Francisco, 4c per bbl. more)

14-18 fuel oil (per bbl.)	$0.525–$0.60	$0.55 –$0.65	$0.55 –$0.65
14-18 Bunker oil (per bbl.)	$0.70 –$0.75	$0.70 –$0.75	$0.70 –$0.75
30-34 gas oil (per bbl.)	$0.85 –$1.05	$0.85 –$1.05	$1.05 –$1.10
27 Plus Diesel oil (per bbl.)	$0.95 –$1.00	$0.95 –$1.00	$0.95 –$1.00

PETROLATUMS

PENNSYLVANIA (In barrels, carload lots, f. o. b. refinery. In tank cars 5/8c to 3/4c per pound less.) Two refiners quoting.

Snow White	8.375– 8.50	8.375– 8.50	8.375– 8.50
Lily White	7.375– 7.625	7.375– 7.625	7.375– 7.625
Cream White	6.375– 6.625	6.375– 6.625	6.375– 6.625
Light Amber	3.625	3.625	3.625
Amber	3.375	3.375	3.375
Red	3.125	3.125	3.125

PETROLEUM COKE

****OKLAHOMA**

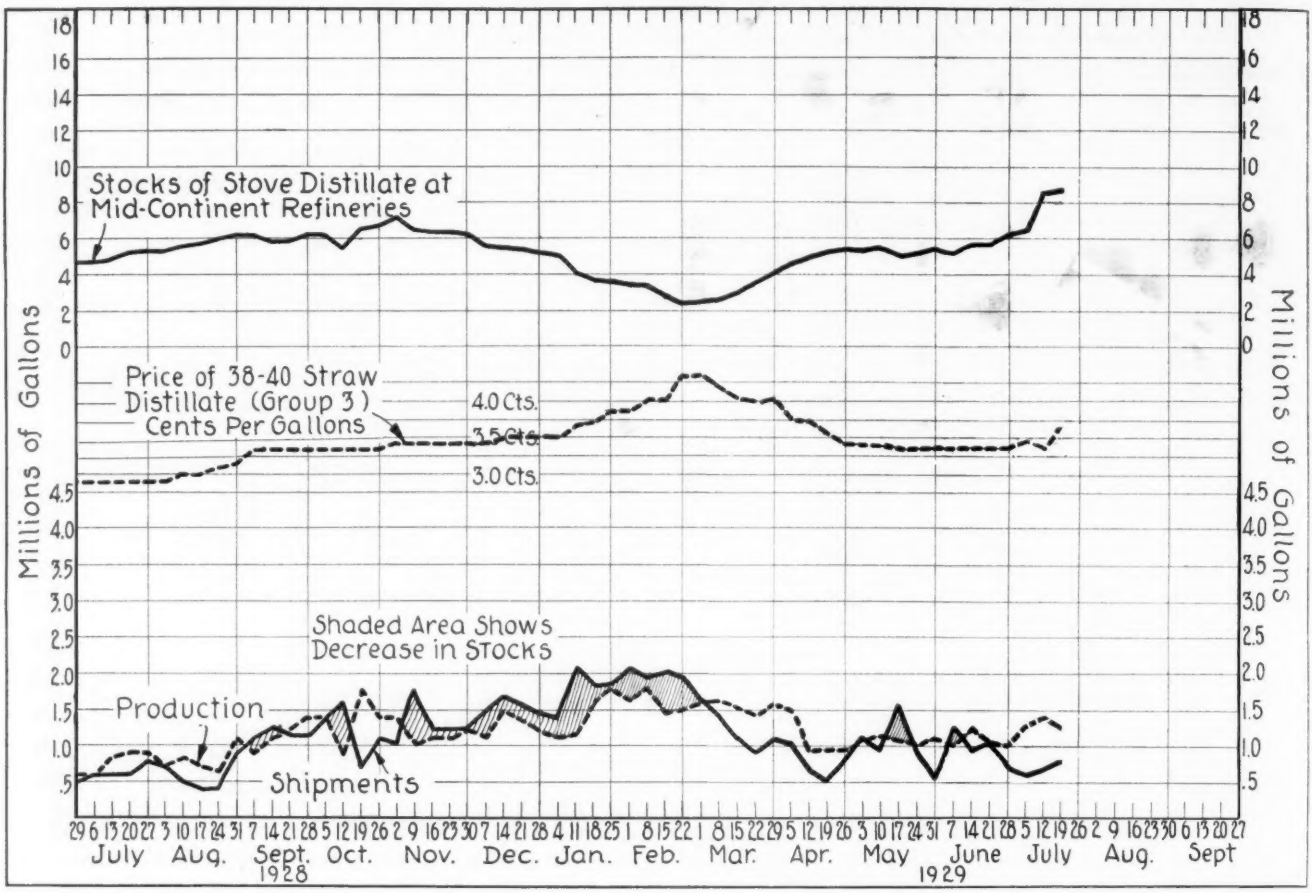
(Per ton in car lots)

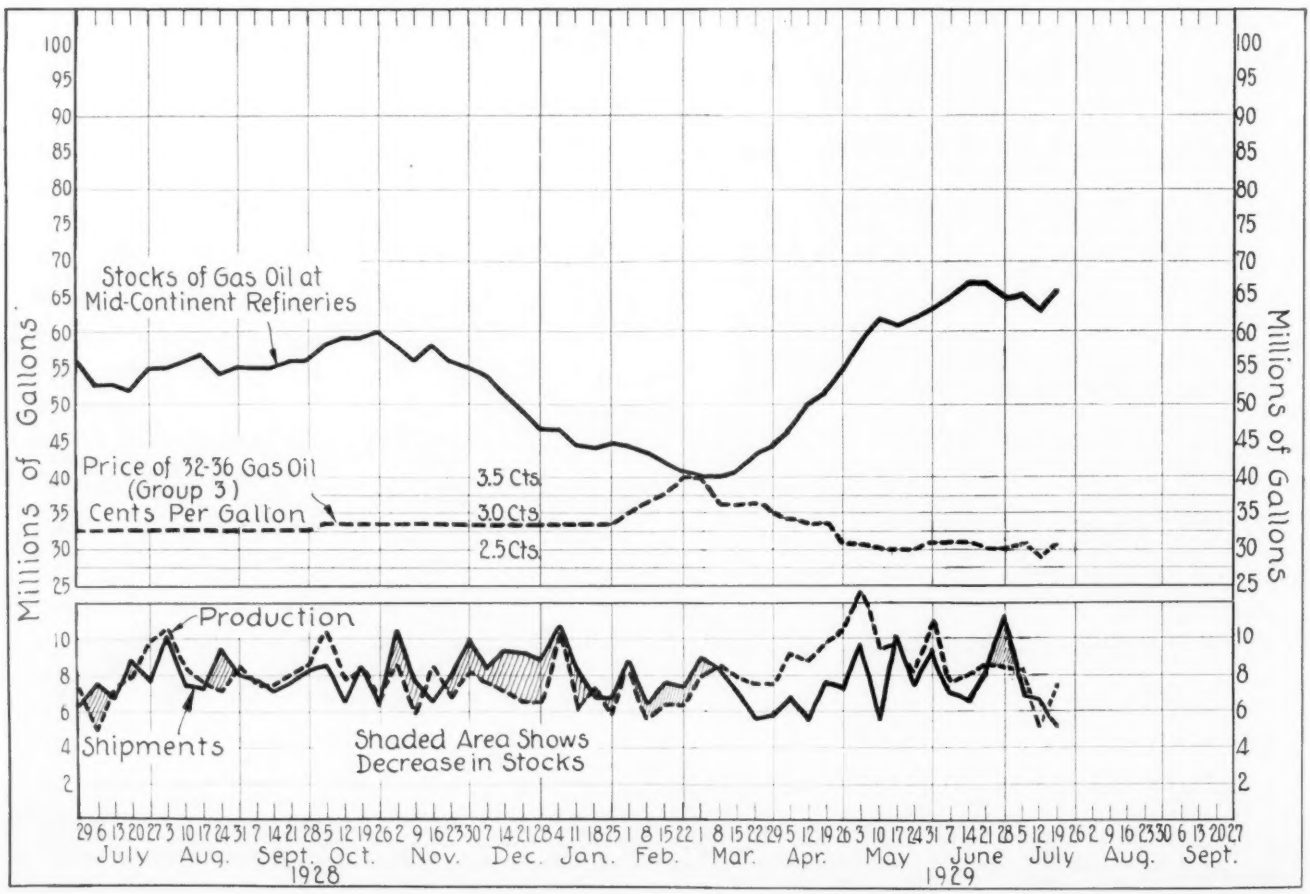
Lump	$4.50 – 5.00	$4.50 – 5.00	$4.50 – 5.00
Still run	$3.00	$3.00	$3.00
Breeze	$2.00	$2.00	$2.00

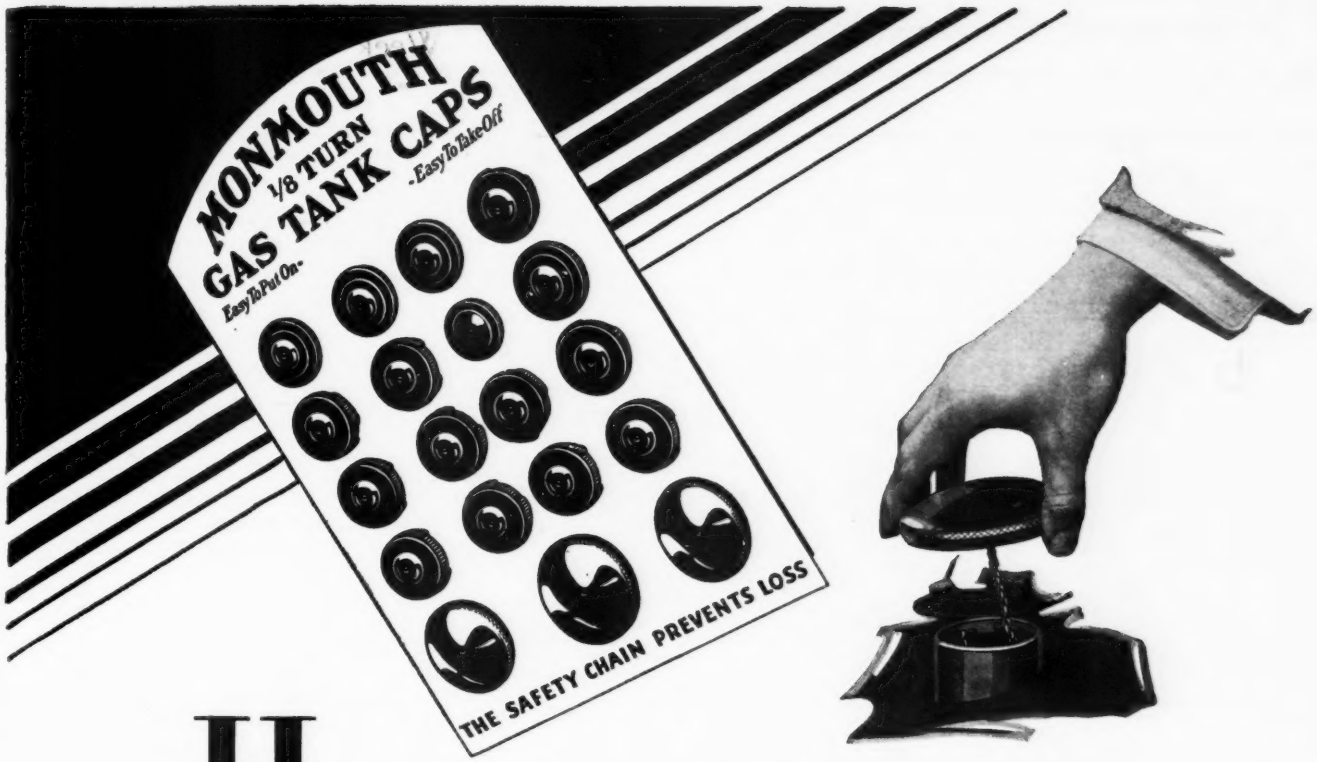
†Prices Nominal ††Only One Refiner Quoting *Quotations only **Represents both sales and quotations

Barometer of Mid-Continent Refinery Market—Week Ending July 19

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, from Reports Made by 93 Plants to National Petroleum News


Stocks of Stove Distillate at Mid-Continent Refineries
Price of 38-40 Straw Distillate (Group 3) Cents Per Gallons
4.0 Cts.
3.5 Cts.
3.0 Cts.
Shaded Area Shows Decrease in Stocks
Production
Shipments
Millions of Gallons
July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept
1928
1929


Stocks of Gas Oil at Mid-Continent Refineries
Price of 32-36 Gas Oil (Group 3) Cents Per Gallon
3.5 Cts.
3.0 Cts.
2.5 Cts.
Production
Shipments
Shaded Area Shows Decrease in Stocks
Millions of Gallons
July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept.
1928
1929



HE WILL THANK YOU FOR THIS SERVICE

Lost gas tank cap—you discover the loss—the customer expects to get a replacement cap from you. Why should he shop around for it?

Have Monmouth Caps ready for emergencies like this, and you'll make new friends. It's a service motorists appreciate—you save them time and trouble.

And best of all it costs you little in investment, nothing at all in time—and there's a worthwhile profit in every replacement.

An attractive display board—with a cap to fit every car, is your silent salesman.

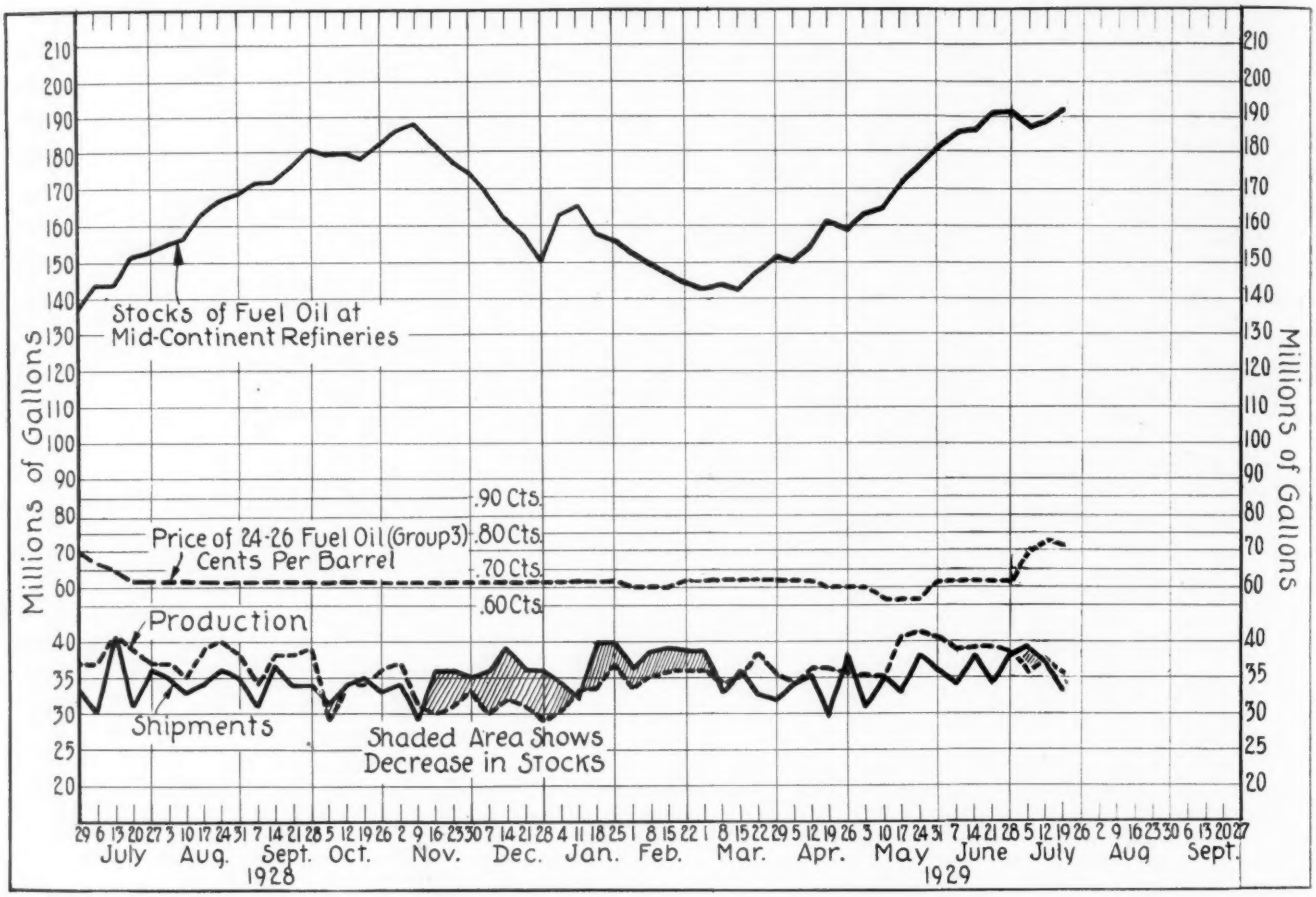
Monmouth Caps are leak-proof, rattle-proof and can't get lost. On or off with a ⅛ turn.

Made and sold by
THE EATON BUMPER AND SPRING SERVICE COMPANY · *Cleveland, Ohio*
Branches: Atlanta, Boston, Chicago, Cleveland Dallas, Denver, Kansas City, Philadelphia

Fit every car
Never get lost
Can't rattle
Go on easily
Come off quickly
Leak-proof

Barometer of Mid-Continent Refinery Market—Week Ending July 19

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, from Reports Made by 93 Plants to National Petroleum News



California Refinery Market

Tanker Rates Depress Intercoastal Trade

LOS ANGELES, July 18

COASTWISE and intercoastal tanker rates showed no sign of easing during the past week. Owners continued to get high rates, especially for dirty tonnage, the demand for which remains steady with a large shortage. California exporters see no possibility of spot gasoline business, with the Atlantic seaboard, while clean ships are going for from $1 to $1.10 per barrel.

No spot sales were reported and only a few firm inquiries, broke the monotony of an extremely inactive export market.

U. S. Motor continued the strongest petroleum product in California during the past week, as far as maintaining a price was concerned. Gasoline for out-of-the-state shipment was a shade under last week's quotation, netting the manufacturer from 7.50 to 8.25 cents.

In-state quotations for this commodity ranged from 9.50 to 10.25 cents, although one Independent refiner stated that he had let some go for as low as 9 cents.

Natural gasoline was soft being quoted at from 8.50 to 9 cents by one refiner while another reported that he would not shade 8.75 cents for Signal Hill casing head. Several spot sales were reported at both 8.50 and 8.75 cents.

Kerosene showed a 0.25 cent decrease, ranging from 5.25 to 6 cents. An Independent supplier stated that he had quoted 5.50 cents on an inquiry but had lost the sale on a lower bid.

Competition between two major companies for fuel oil business has resulted in several spot sales at rather low prices. It is reported that one company made a successful bid of $0.525 on several tank cars of fuel oil to be shipped to Arizona.

Several companies are also said to be quoting these low prices on fuel oil at a flat rate for two years instead of the usual sliding scale schedule.

Mild weather has caused a heavy demand on refiners for gasoline. One Independent is reported to be selling between 150,000 and 250,000 gallons of gasoline per day. This dealer is securing a large percentage of the total gallonage because he is selling at 17.50 cents, or 2 cents under the price maintained at stations selling major products.

LOS ANGELES, July 19.—Oil exports from California for the fiscal year ended June 30 increased over the previous year to 118,712,168 barrels.

Production of petroleum in Czechoslovakia declined in 1928 to 97,538 barrels. In 1927 output amounted to 115,318 barrels and in 1926, to 154,966 barrels.

Pennsylvania Market

Prices Steady After Crude Cut

CLEVELAND, July 22.—Refined oils had already discounted the cut in crude prices announced a week ago today, according to a majority of the Pennsylvania trade. Such was the opinion among traders at any rate and price movements following the lower crude prices seemed to substantiate their views.

Spot demand for all commodities in the Pennsylvania market, with the possible exception of bright stock, was relatively slow throughout the past week. Despite this fact, and also "the bad psychological effect the crude cut was bound to have,"—to quote a couple of large sellers—refined oil prices held up remarkably well.

Sellers reporting good demand for U. S. Motor gasoline were in the minority although one or two companies made known sales of a few 10 to 15 car lots. The majority of quotations and sales of this commodity, until late in the week, were at 10.25 to 10.75 cents. On July 20, however, more sellers reported meeting competition at 10 cents and volume of goods moving at this price became sufficient to be representative of the general market.

Spot kerosene was inactive, but last week's purchases by eastern companies for storage took most of the distress goods from the market with the result that prices for this commodity, which have been dropping 0.125 to 0.25-cent each week for the past several weeks, were at a standstill.

Water white kerosene, 45 gravity, still was freely available at 6.25 cents but the top of the market range moved down from 6.75 to 6.50 cents.

Steam refined stocks probably felt the crude reduction more than any other class of oils. Prices for 600 steam refined were approximately 0.5-cent under prices prevailing the previous week. Filtered stocks were quoted as much as 1.5 cents lower in some quarters.

The demand for bright stock was brisk and goods were none too freely offered for spot shipment at current price levels. No. 8 color oil was quoted at a minimum of 52 cents; several manufacturers reported sales of small lots at 53 cents. Only one or two companies quoted No. 6—6½ color oil; their prices ranged from 51 to 52 cents.

Wax demand was a shade better and 2.75 cents was the minimum quoted for both the 122-124 and 124-126 A.m.p. grades. New York brokers had little success in breaking under this level even though they presented some rather attractive orders.

They Will Remember Your Gasoline By Its Color

Color your anti-knock or high test gasoline an attractive shade by which the public will recognize and remember your good product.

DYKEM GASOLINE COLORS

Made to stay in gasoline; simple, safe, economical.

Several Shades of

RED GREEN BLUE
ORANGE PURPLE

Write for price and sample of shade you prefer.

DYESTUFFS & CHEMICALS, INCORPORATED
11th & Monroe Sts. **St. Louis, Mo.**

600 TRANSMISSION OIL

Gravity: 16 — 18
Flash : 420 degrees
Fire : 480 degrees
Pour Test: Below 30
Viscosity : 180 at 210 degrees

Write or wire for prices and samples.

PRIMROSE PETROLEUM CO., Inc.
Refiners and marketers of all Petroleum Products
DALLAS, TEXAS

New York Domestic Market

Eastern Gasoline Prices Wavering

Staff Special
NEW YORK, July 20

RUMORS of gasoline moving from 0.25 to 0.50 cent below the general quoted market at New York, furnished food for thought among the trade the past week. The market, however, was unchanged at all points, although the trade was united in reporting spot business slow.

One company at New York lowered its price last week to 9.50 cents. At that time the sales manager stated that his business had fallen off almost two-thirds and felt that it was because of the 10-cent price. This week he reported that he had recovered about 15 per cent of the business he had lost. Another company July 18 lowered its price to 9.75 cents and July 20 there were reports that two companies were quoting under 10 cents.

One of the latter two was a large refiner which denied selling anything for spot shipment under 10 cents. Some goods moved on contract lower, the salesmanager said, but nothing for spot. He said that in some instances he had encountered opposition from jobbers relative to paying 10 cents, but as yet he had not been forced to cut his price to get business. His statement has been voiced by a majority of the trade.

Two companies continue to quote 11 cents at New York. One of them, the first to raise its price early in the month, announced early in the week that it was maintaining the 11-cent price at New York only. At Baltimore, Charleston and Savannah, where 11 cents was quoted earlier, the company is now quoting 10 cents and doing business on that basis. The salesmanager of the company was frank in admitting he was doing no business at New York, and that he was turning down sales because he would not shade 11 cents.

Contract goods in other districts has moved under 10 cents although that figure is the going spot price at all points with the exception of New England. The delivered price there in one instance figures 10.50 cents f.o.b. the refiner's terminal.

Kerosene movement has been fair. Most sellers were quoting from 7.75 to 8 cents with the bulk of movement at the lower figure. Baltimore kerosene moved at 8 cents with no shading reported.

Prices were slightly lower for gas oils. Both at New York and Boston prices for 28-34 goods were 4.75 cents, a drop of 0.25 cent under prices of a week ago. Two sellers have reported making contracts over next year at 4.75 cents and are obtaining that price for spot. The spot movement has been fair.

On other commodities prices were unchanged. Furnace oil, 36-40 gravity, has been freely offered at 6 cents although some sellers are still quoting 6.50 cents.

California gasoline has been moving about normal most sellers report. Ten cents has been the general quotation although at New York prices ranged up to 10.50 cents. One seller at Philadelphia reported July 19 that he had sold 2,000,000 gallons for shipment over August at 9.50 cents.

Most of the gasoline moving from California to the east coast at present is contract goods. The spot price for gasoline on the Pacific Coast is now about 7 cents. This added to the high tanker rate makes the purchases of spot cargoes almost prohibitive because of the narrow margin between the delivered price and the eastern tank car price.

Lion's Sales Manager Resigns

TULSA, July 20.—E. F. O'Byrne, for the past several years in charge of sales for the Lion Oil Refining Corp. at the company's El Dorado, Ark., offices has resigned effective August 1. His future plans have not been announced.

W. H. Reed who has been in charge of the company's sales office in Jackson, Miss. has been transferred to El Dorado and will succeed Mr. O'Byrne.

Gulf Coast Market

Domestic Gasoline And Kerosene Lower

Staff Special
NEW YORK, July 20

FOREIGN buyers were inactive at the Gulf the past week. No inquiries came in the market and no sales were made. Prices for all commodities were unchanged.

U. S. Motor for domestic shipment at the Gulf was lower by 0.50 cent than the previous week. Until the past week there has been very little activity and prices have stood around 8.50 cents. July 16 suppliers' opinions of the market were 8.25 cents. Later in the week a cargo was offered delivered to Bayonne at 9 cents, which, at the present rate for coastwise boats would make the f.o.b. price around 8 cents.

Kerosene also was lower for domestic shipment. There has been no business transacted in that commodity either but inasmuch as goods can be purchased out of the Mid-Continent at lower figures, suppliers from the Gulf quote their market at 6.75 to 7 cents.

Gulf Coastal Water Shipments — June Compared With May

(All figures in Barrels of 42 Gallons)

Company—Port	Coastwise Refined May	Coastwise Refined June	Export Refined May	Export Refined June
Standard of Louisiana, Baton Rouge	1,002,864.00	598,777.00	951,568.00	1,033,619.00
The Texas Company, Port Arthur	1,507,732.00	1,392,189.00	475,405.00	636,244.00
Gulf Refining Co., Port Arthur	2,830,398.19	2,871,557.54	104,610.85	100,445.00
Magnolia Petroleum Co., Beaumont	1,266,285.64	1,278,320.19*	.....	.....
Humble Oil & Rfg. Co., Baytown	1,572,794.39	1,672,519.45	1,673,898.96	1,638,898.05
Atlantic O. Prod. Co., Atreco	89,484.42	61,346.97	.....	.....
Pure Oil Co., Smiths Bluff	404,390.70	413,744.07	.....	.....
TOTALS	8,673,949.34	8,288,454.22	3,205,482.81	3,409,206.05
	Coastwise Crude		**Export Crude**	
Standard of Louisiana, Baton Rouge	571,480.00	500,973.00	107,563.00	.....
The Texas Company, Port Arthur	.....	.....	164,660.00	.....
Magnolia Petroleum Co., Beaumont	1,143,370.34	1,333,836.62*	.....	.....
Humble Oil & Rfg. Co., Texas City	726,368.00	979,432.00	.....	13,910.00
Ingleside	145,164.00	124,672.00	.....	.....
Baytown	398,899.00	78,271.00	.....	.....
Neches	.....	74,577.00	.....	.....
Harbor Island	1,571,496.00	1,739,165.00	406,336.00	401,703.00
Atlantic O. Prod. Co., Atreco	1,510,945.71	1,196,388.86	.....	.....
Beaumont	194,469.35	153,633.21	.....	.....
Pure Oil Co., Smiths Bluff	821,967.12	495,337.34	.....	.....
Sun Oil Co., Sabine Pass	.....	442,071.00	.....	.....
TOTALS	7,084,159.52	7,118,337.03	678,559.00	415,613.00

*Magnolia Petroleum Company makes no distinction in reports between coastwise and export shipments.

Wax Market

Price Movements Mixed

NEW YORK, July 20.—Both foreign and domestic buyers failed to exhibit any great interest in the market the past week. Quotations largely governed the market, those for fully refined grades being revised to some extent.

Scale waxes were unchanged in price, white crude being quoted at last week's figures, 2.75 to 3 cents, and yellow at 2.625 to 2.875 cents. Sellers reported the same as last week, that "inquiries were being received but buyers bid prices lower than refiners were willing to accept."

Fully refined quotations were advanced in some instances and lowered in others. Both 123-125 and 125-127 A.m.p. grades were slightly higher being quoted at 4 to 4.25 cents. From 5 to 5.25 was the general range for 130-132 A.m.p. a decrease of 0.25 cent under last week, and 135-137 A.m.p. was quoted at 6.25 to 6.50 cents. Other grades were unchanged.

Even though the market was not very active, there was more interest displayed in fully refined goods than for some weeks past. One company reported several small sales, some of them for shipment into the United Kingdom and South America. The business was transacted at prices shown above. In each case the goods was to move out promptly as the company rarely enters into contracts of more than 30 days.

Contract business has been good, most of the trade reported. A large portion of the goods being shipped now on contract was purchased two months or more ago at prices lower than the market today. As a rule these contracts were only for three months' duration and will expire late in August or early in September.

Gulf Coast Lubes Steady

HOUSTON, July 22.—Good normal summer demand for Gulf Coastal lubricants continued the past week. Prices were steady at recently higher levels. Manufacturers foresee no great change in conditions over the next few weeks.

TULSA, July 19.—E. F. Painter has been appointed sales representative in Missouri for the Cushing Refining & Gasoline Co., according to an announcement by E. O. Derrick, sales manager. Mr. Painter formerly was with E. M. Wilhoit Oil Co., Springfield, Mo.

TWO POPULAR AIR COMPRESSORS

For The Average Size and for Super Stations

The Dayton "G" 3, shown here has a pumping capacity of 5 cub. ft. of free air per minute. Has a 1 H. P. motor and 56 gallon tank. Will operate air lift in connection with other demands such as found in average station or garage.

Built without connecting rods, cotter pins, crosshead pins or bolts. The only Two-stage air compressor so constructed.

A bear for work with a lifetime of service.

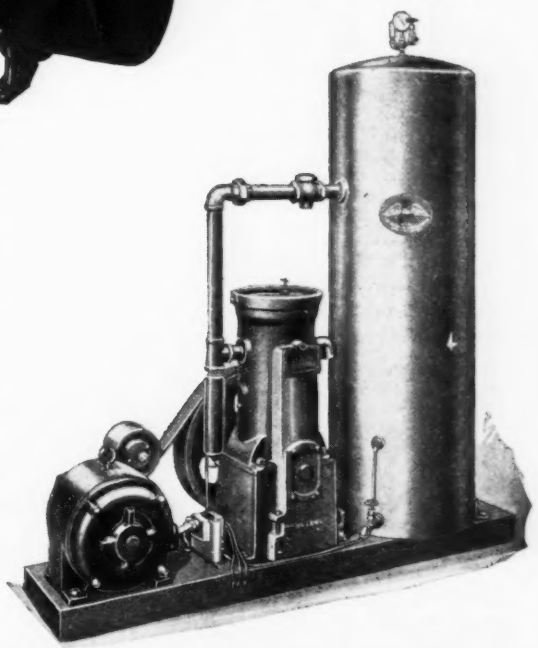
Write for "G" Bulletin.

SUPER STATIONS

Where the demands for air are constant find this "Dayton" A-2 particularly well adapted to their needs. This model has a displacement of 23 Cu. ft. of clean air per minute.

Equipped with 5 H. P. motor and 80 gallon tank, yet only 90" in length.

A real investment for the Super Service Station. *Send now for catalog showing the "A" and other Dayton Models—fitted to every air need.*



DAYTON AIR COMPRESSORS

425 Valley St. **Dayton, Ohio**

STEEL
DRUM ACCESSORIES
CORPORATION

BUFFALO, NEW YORK

"The House of Drum Faucets"

Complete Seaboard Market

(Export Markets for whole year given in OIL PRICE HANDBOOK. Each volume carries refinery, tank wagon, crude and export markets—complete for the whole year)

Eastern Domestic Market

(Prices for tank car lots, f. o. b. refinery or seaboard terminal, representing majority of quotations.)

U. S. MOTOR GASOLINE	July 22	July 15	July 8
New York harbor	10.00	10.00	10.00
Portland district	**11.50–11.75	**11.50–11.75	**11.50–11.75
Boston district	*11.00	*11.00	**10.50–11.00
Providence district	*11.00	*11.00	**10.50–11.00
Philadelphia district	10.00	10.00	10.00
Baltimore district	10.00	10.00	10.00
Norfolk district	10.00	10.00	10.00
Charleston district	10.00	10.00	10.00
Savannah district	10.00	10.00	10.00
Jacksonville district	10.00	10.00	10.00
CALIFORNIA, U. S. MOTOR GASOLINE			
New York habor	10.00	10.00 –10.50	10.00 –10.50
Philadelphia district	10.00	10.00	10.00
Baltimore district	10.00	10.00	10.00
WATER WHITE KEROSENE			
New York harbor	7.75 – 8.00	7.75 – 8.00	7.75 – 8.00
Philadelphia district	7.75 – 8.00	7.75 – 8.00	7.75 – 8.00
Baltimore district	8.00	8.00	8.00 – 8.25
Gas OIL: 28-34 Gravity			
New York harbor	4.75	4.75 – 5.00	4.75 – 5.00
Boston district	4.75	4.75 – 5.00	4.75 – 5.00
FURNACE OIL: 36-40 Gravity			
New York habor	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50
Boston district	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50
GRADE C BUNKER OIL†			
New York harbor	$1.05	$1.05	$1.05
Boston district	$1.05	$1.05	$1.05
DIESEL OIL			
New York harbor	$2.00 –$2.10	$2.00 –$2.10	$2.00 –$2.10
MEDICINAL OILS, RUSSIAN			
885-890 s.g. 325-330 vis.	$0.75 – 0.80	$0.75 – 0.80	$0.75 – 0.80
870-875 s.g. 150-155 vis.	$0.65 – 0.70	$0.65 – 0.70	$0.65 – 0.70

Note: Above gasoline prices do not include inspection tax levied in some states

*Minimum delivered. **Delivered prices. †Lighterage 5c per bbl. additional

New York Export Market

(Lubricating oils are per gal. in bbls.)

	July 22	July 15	July 8
CYLINDER OILS (Pennsylvania Products)			
Bright stock, dark	57.00	57.00	57.00 –59.00
600 D filtered	45.00	45.00 –48.00	47.00 –49.00
600 Warren E filtered	42.00 –43.00	42.00 –43.00	44.00 –45.00
600 s.r. unfiltered	33.00 –35.00	35.00 –37.00	37.50 –40.00
650 s.r. unfiltered	39.00 –42.00	41.00 –43.00	45.00 –46.00
600 flash, s.r.	42.00 –45.00	44.00 –47.00	47.00 –48.00
630 flash, s.r.	46.00 –48.00	48.00 –49.00	52.00 –54.00
RED ENGINE OILS (Vis. 100°)			
300 vis. No. 6½ color	20.00 –21.00	20.00 –21.00	20.00 –21.00
250 vis. No. 6 color	18.00 –20.00	18.00 –20.00	18.00 –20.00
200 vis. No. 6 color	15.00 –16.00	15.00 –16.00	16.00 –18.00
PALE ENGINE OILS (Vis. 100°)			
230 vis. No. 3¾ color	18.00 –20.00	18.00 –20.00	23.50
180 vis. No. 3¼ color	17.00	17.00	18.50 –20.50
100 vis. No. 2¼ color	16.00	16.00	16.00 –17.00
MOTOR OILS (Vis. 100°)			
600 vis. No. 7 color	33.00	33.00	33.00
500 vis. No. 6½ color	31.00	31.00	31.00
400 vis. No. 7¼ color	30.00	30.00	30.00
300 vis. No. 6 color	23.00 –25.00	23.00 –25.00	25.00 –27.00
200 vis. No. 6 color	20.00 –22.00	20.00 –22.00	24.00
MEDICINAL OILS			
875-885 s.g.	$0.80	$0.80	$0.80
865-870 s.g.	$0.70	$0.70	$0.70
WAXES (In cents per pound, f.a.s. carload lots)			
WHITE CRUDE SCALE (In barrels)			
122-124 A.m.p.	2.75 – 3.00	2.75 – 3.00	2.75
124-126 A.m.p.	2.75 – 3.00	2.75 – 3.00	2.75
FULLY REFINED (In burlap bags)			
123-125 A.m.p. Phila.	4.00 – 4.25	3.875	3.875
125-127 A.m.p.	4.00 – 4.25	4.00 – 4.125	4.00 – 4.125
128-130 A.m.p.	4.25 – 4.50	4.25 – 4.50	4.25 – 4.50
130-132 A.m.p.	5.25 – 5.50	5.50 – 5.75	5.50 – 5.75
133-135 A.m.p.	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25
135-137 A.m.p.	6.25 – 6.50	6.50	6.50
YELLOW CRUDE SCALE			
124-126 A.m.p.	2.625– 2.875	2.625– 2.875	2.625

Gulf Export Market

(Prices are f. o. b. Gulf oil terminals in Texas and Louisiana, shipments of 20,000 bbls. or more unless otherwise noted and for export shipment only).

GASOLINE	July 22	July 15	July 8
U. S. Motor	8.50	8.50	8.50
60-62, 400 e.p.	9.50	9.50	9.50
61-63, 390 e.p.	9.75	9.75	9.75
64-66, 375 e.p.	10.00	10.00	10.00
U. S. Motor, cases (cargoes)	$1.85	$1.85	$1.85
64-66, cases (cargoes)	$2.00	$2.00	$2.00
KEROSENE			
44 water white	8.00	8.00	8.00
41-43 prime white	7.00	7.00	7.00
Water white, cases (cargoes)	$1.80	$1.80	$1.80
Prime white, cases (cargoes)	$1.70	$1.70	$1.70
DOMESTIC GAS & BUNKER OILS			
*26-30 translucent gas oil	4.00	4.00	4.00
*30 plus translucent gas oil	4.00 – 4.125	4.00 – 4.125	4.00 – 4.125
Grade C bunker oil	$0.95 –$1.00	$0.95 –$1.00	$0.95 –$1.00
Grade C bunker oil, cargoes	$0.75 – 0.85	$0.75 – 0.85	$0.75 – 0.85
*Less than ½ of 1% sulphur.			
MEXICAN CRUDE AND BUNKER OILS (F. O. B. Steamer, Tampico)			
Heavy Panuco crude taxes to be paid	$0.60 –$0.65	$0.60 –$0.65	$0.60 –$0.65
Grade C bunker oil for bunkering purposes, taxes paid	$0.95 –$1.00	$0.95 –$1.00	$0.95 –$1.00
SOUTH TEXAS LUBRICATING OILS, (Viscosity at 100° F. (cold test 0) (Tanker, f. o. b. Houston)			
100 vis. No. 2 unfiltered pale	7.00	7.00	7.00
200 vis. No. 3 unfiltered pale	8.50 – 9.50	8.50 – 9.50	8.50 – 9.50
300 vis. No. 3 unfiltered pale	9.50 –10.50	9.50 –10.50	9.50 –10.50
500 vis. No 3½ unfiltered pale	11.00 –12.00	11.00 –12.00	11.00 –12.00
750 vis. No. 4 unfiltered pale	13.50 –14.00	13.50 –14.00	13.50 –14.00
1200 vis. No. 5 unfiltered pale	16.50 –17.00	16.50 –17.00	16.50 –17.00
200 vis. No. 5-6 red oil	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
300 vis. No. 5-6 red oil	8.50 – 9.00	8.50 – 9.00	8.50 – 9.00
500 vis. No. 5-6 red oil	10.00 –10.50	10.00 –10.50	10.00 –10.50
750 vis. No. 5-6 red oil	12.00 –12.50	12.00 –12.50	12.00 –12.50
1200 vis. No. 5-6 red oil	16.50 –17.00	16.50 –17.00	16.50 –17.00

Gulf Domestic Market

(Prices are f.o.b. Gulf oil terminals in Texas and Louisiana in shipments of 20,000 bbls. or more, representing sellers' opinions, for domestic shipment only).

	July 22	July 15	July 8
U. S. Motor gasoline	8.00	8.25 – 8.50	8.50 – 8.75
41-43 w.w. kerosene	6.75 – 7.00	7.00	7.00 – 7.125
*26-32 translucent gas oil	4.00	4.00	4.00
*Less than ½ of 1% sulfur.			

Pacific Export Market

(Quotations are at seaboard, Los Angeles, in cargo lots, cents per gallon, except where otherwise noted.)

	July 22	July 15	July 8
Gasoline, U. S. Motor, 53-55 Gravity	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
Gasoline, U. S. Motor-blends and special cuts	7.50 –10.00	7.50 –10.00	7.50 –10.00
Gas Oil, 30-34, per barrel	$0.95 –$1.05	$0.95 –$1.05	$0.95 –$1.05
Diesel Oil, 27 plus, per barrel	$0.875–$1.00	$0.875–$1.00	$0.875–$1.00
Bunker oil, 14-18, per barrel	$0.70 –$0.85	$0.70 –$0.85	$0.70 –$0.85
Fuel oil, 14-18 per barrel	$0.60 –$0.85	$0.60 –$0.85	$0.60 –$0.85
Kerosene, 38-40 w.w., 125-150 flash, per gal.	5.75 – 6.25	5.75 – 6.25	5.75 – 6.25
Cased Goods			
Gasoline, U. S. Motor	$1.75 –$1.85	$1.75 –$1.85	$1.75 –$1.85
Kerosene, 38-40 w.w., 125, 150 flash	$1.45 –$1.50	$1.45 –$1.50	$1.45 –$1.50

Tanker Rates

(Approximate tanker freight rates to Continental ports, in shillings per ton of 2240 pounds, British sterling; to American ports, cents per barrel.)

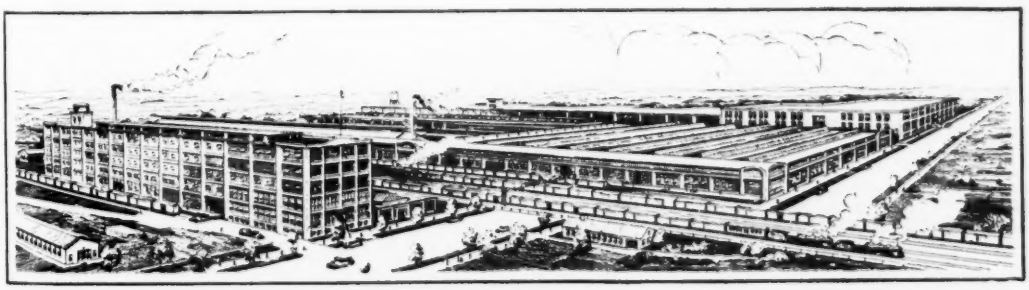
	July 22 Crude &/or Fuel	Refined Oil &/or Spirits
Calif. to U. K. or Continental ports*	35	38-40
Gulf to U. K. or Continental ports*	23	23-25
North Atlantic to U. K. or Continental ports*	20	21-23
Calif. to North Atlantic ports (not E. of N. Y.)	$1.00-$1.10	$1.07-$1.10
Gulf to North Atlantic ports (not E. of N. Y.)**	42-50	40-42

*Continental ports in the range between Bordeaux and Hamburg, both inclusive.

**Venezuela loading 1c per bbl. additional. For Tampico loading 5c per bbl. additional.

The Factory *behind* the Product

THIRTY SIX years of experience in building liquid meters. An engineering force that solves your measurement problems. A research laboratory that guarantees the quality of raw materials. Branch offices in principal cities. An up-to-date factory equipped with modern machinery that produces accurate, long life meters.



Factories of the Pittsburgh Equitable Meter Company. Pittsburgh, Pa.

PITTSBURGH EQUITABLE METER COMPANY

MAIN OFFICE AND WORKS PITTSBURGH, PA.

NEW YORK CHICAGO COLUMBIA, S.C. LOS ANGELES DALLAS TULSA SEATTLE KANSAS CITY SALT LAKE CITY

Tank Wagon Service Station Markets for Gasoline and Kerosene

(OIL PRICE HANDBOOK has t.w. and s.s. markets for a whole year, arranged for quick reference)

These Prices in Effect July 22, 1929, as Posted by Principal Marketing Companies

S.O. NEW JERSEY TERRITORY

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W
Atlantic City, N.J.	12	2	14	18	13
Newark, N. J.	14	2	16	20	13
Annapolis, Md.	14	4	18	22	13
Baltimore, Md.	14	4	18	22	12
Cumberland, Md.	14	4	18	22	13
Washington, D. C.	14	2	16	20	12
Danville, Va.	14	5	19	23	12
Norfolk, Va.	14	5	19	23	13
Richmond, Va.	14	5	19	23	13
Roanoke, Va.	13	5	18	21	13
Petersburg, Va.	14	5	19	23	13
Charleston, W. Va.	14	4	18	22	13
Keyser, W. Va.	14	4	18	22	13
Parkersburg, W. Va.	14	4	18	22	13
Wheeling, W. Va.	14	4	18	22	13
Charlotte, N. C.	14	5	19	23	13
Hickory, N. C.	14	5	19	23	13
Mt. Airy, N. C.	14	5	19	23	13
Salisbury, N. C.	14	5	19	23	13
Charleston, S. C.	14	6	20	24	13
Columbia, S. C.	14	6	20	24	13

CONTINENTAL OIL

Denver, Colo.	14	4	18	21	15.5
Pueblo, Colo.	14	4	18	21	15.5
Grand Junc., Colo.	18.5	4	22.5	25.5	19
Casper, Wyo.	17	4	21	24	14
Cheyenne, Wyo.	18	4	22	25	15.5
Butte, Mont.	20.5	5	25.5	28.5	20
Helena, Mont.	20.5	5	25.5	28.5	20
Salt Lake City, Utah.	18.5	3½	22	25	17
Boise, Ida.	20.5	4	24.5	27.5	19
Twin Falls, Ida.	20.5	4	24.5	28.5	19
Albuquerque, N. M.	16	5	21	24	17

S. O. CALIFORNIA

Phoenix, Ariz.	14	4	18	22	20.5
Los Angeles, Cal.	16.5	3	19.5	22.5	15.5
Fresno, Cal.	17	3	20	23	17
San Francisco, Cal.	17	3	20	23	15.5
Reno, Nev.	21	4	25	28	19
Portland, Ore.	17.5	3	20.5	23.5	16.5
Seattle, Wash.	17.5	3	20.5	23.5	16.5
Spokane, Wash.	21.5	3	24.5	27.5	20.5
Tacoma, Wash.	17.5	3	20.5	23.5	16.5

Note: 4c per gal. discount to dealers off t.w. price of gasoline to customers taking tank truck delivery, thru S. O. California territory, except 1c discount at Phoenix to dealers only.

S. O. LOUISIANA

Little Rock, Ark.	15	5	20	24	13
Alexandria, La.	14	4	18	22	†16
Baton Rouge, La.	13	4	17	21	†14.5
Lake Charles, La.	††15.5	4	††19.5	††23.5	†16
New Orleans, La.	*14.5	4	*18.5	22.5	†16
Shreveport, La.	14.5	4	18.5	22.5	†15
Lafayette, La.	**15	4	**19	**23	†14
Bristol, Tenn.	17	5	22	25	14
Chattanooga, Tenn.	16.5	5	21.5	25.5	16
Knoxville, Tenn.	15	5	20	24	16
Nashville, Tenn.	14	5	19	23	16
Memphis, Tenn.	13	5	18	22	12.5

*New Orleans gasoline prices include 1c parish tax in addition to 4c state tax, and kerosene prices include 1c state tax and 1c parish tax.

†Kerosene price in Louisiana includes 1c state tax.

**Lafayette gasoline prices include 1c parish tax in addition to 4c state tax.

††Lake Charles gasoline prices include 1c parish tax.

S. O. KENTUCKY

Ashland, Ky.	13	5	18	19	15.5
Catlettsburg, Ky.	13	5	18	19	15.5
Lexington, Ky.	16	5	21	23	15.5
Louisville, Ky.	16	5	21	23	15
Covington, Ky.	16	5	21	22	15.5
Clarksdale, Miss.	17	5	22	24	12.5
Gulfport, Miss.††	18.5	5	23.5	25.5	14
Jackson, Miss.	17	5	22	24	13
Natchez, Miss.	16.5	5	21.5	23.5	14
Vicksburg, Miss.	16.5	5	21.5	23.5	14
Birmingham, Ala.	18	4	22	24	16
Mobile, Ala.‡	18	4	22	24	15
Montgomery, Ala.*	19	4	23	25	16.5
Atlanta, Ga.	16	4	20	22	†16.5
Augusta, Ga.	18	4	22	24	†15.5
Macon, Ga.	18	4	22	24	†16.5
Savannah, Ga.	17	4	21	23	†15.5
Jacksonville, Fla.	17	6	23	25	14.5
Miama, Fla.	18	6	24	26	15.5
Tampa, Fla.	13	6	19	21	14.5
Pensacola, Fla.**	18	6	24	26	14.5

Note: Net price to dealers is 2c under posted t.w. price thru S. O. Kentucky territory.

Latest Changes in Tank Wagon Prices

Gasoline Changes

S. O. New Jersey—T.w. and s.s. gasoline up 2c, Parkersburg, to 18c and 22c, including 4c tax, **July 15.**

S. O. Ohio—T.w. gasoline cut 1c, s.s. cut 2c, thru Meigs and Lorain counties, both to 19c including 4c tax, **July 19.**

S. s. only cut 1c, Marion, to 19c, July 19.

Magnolia Petroleum—T.w. and s.s. up 1c, Tulsa, to 15c and 19c respectively, including 4c tax, **July 13.**

S. O. California—4c per gallon discount is allowed off posted t.w. price of gasoline to customers taking tank truck delivery thru territory, except at Phoenix, where 1c discount off posted t.w. price is given to dealers only.

Kerosene Changes

Magnolia Petroleum—Kerosene cut 1c, Texarkana, to 12c t.w., **July 13.**

*Local privilege tax of 1 cent on gasoline and ½ cent on kerosene at Montgomery included. ‡Mobile gasoline prices include 1c city tax.

†Georgia kerosene prices include 1c state tax.

**Both tank wagon prices include 1c city tax at Pensacola, which went into effect Oct. 15, 1926.

††Both tank wagon prices at Gulfport include Harrison county privilege tax of 2c.

S. O. NEBRASKA

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Omaha, Neb.	16.25	4	20.25	22.25	13.25
McCook	17.75	4	21.75	23.75	14.75
Norfolk	16.75	4	20.75	22.75	13.75
North Platte	17.75	4	21.75	23.75	14.50
Scottsbluff	17.75	4	21.75	23.75	14.25

S. O. INDIANA

Chicago, Ill.	16.0	0	16.0	17.0	13
Decatur, Ill.	16.2	0	16.2	17.2	13.1
E. St. Louis, Ill.	15.4	0	15.4	16.4	12.2
Joliet, Ill.	16.4	0	16.4	17.4	13.3
Peoria, Ill.	16.2	0	16.2	17.2	13.1
Quincy, Ill.	16.2	0	16.2	17.2	12.9
Indianapolis, Ind.	16.2	4	20.2	21.2	14.2
Evansville, Ind.	16	4	20	21	14
South Bend, Ind.	16.4	4	20.4	21.4	14.4
Detroit, Mich.	16.8	3	19.8	20.8	14.7
Grand Rapids, Mich.	16.7	3	19.7	20.7	14.6
Saginaw, Mich.	16.9	3	19.9	20.9	14.8
Green Bay, Wisc.	16.6	2	18.6	19.6	13.4
Madison, Wisc.	16.3	2	18.3	19.3	13.1
Milwaukee, Wisc.	16.1	2	18.1	19.1	12.9
La Crosse, Wisc.	17.2	2	19.2	20.2	14
Minneapolis, Minn.	17.2	3	20.2	21.2	13.9
Duluth, Minn.	17.5	3	20.5	21.5	13.9
Mankato, Minn.	17.1	3	20.1	21.1	13.7
Des Moines, Ia.	16.5	3	19.5	20.5	13.3
Davenport, Ia.	16.5	3	19.5	20.5	13.3
Sioux City, Ia.	16.1	3	19.1	20.1	12.9
Mason City, Ia.	16.5	3	19.5	20.5	13.3
St. Louis, Mo.	*15.9	2	17.9	18.9	12.3
Kansas City, Mo.	†16.	2	18.9	19.9	11.6
St. Joseph, Mo.	†16.	3	18.5	19.5	12.2
Fargo, N. D.	18.9	3	21.9	22.9	15.9
Grand Forks, N. D.	19.2	3	22.2	23.2	16.2
Minot, N. D.	18.9	3	21.9	22.9	15.9
Pierre, S. D.	17	4	21	22	14.4
Huron, S. D.	17.3	4	21.3	22.3	14.7
Wichita, Kans.	14.8	3	17.8	18.8	11.8
Bartlesville, Okla.	14.5	3	17.5	18.5	11.5

S. O. Indiana's quantity contract price schedule thru territory except Chicago on tank truck deliveries of gasoline, figured from the service station price, is 2c for 500 gals. or more a month; 2½c for 2000 gals. or more a month and 3c for 6000 gals. or more a month

In Chicago and vicinity, these discounts apply Over 500 gals. per month, 2c per gal. off service station price; over 1,000 gals. per month, 4c per gal. off service station price.

*Includes city tax of ½c.

†Includes city tax of 1c.

S. O. OHIO

Bryan	*13	4	*17	17	14
Lima and Hamilton.	**14	4	**18	18	14
††Meigs and Lorain Counties and 11 Competitive Points	††15	4	††19	19	14
†At 5 Competitive Points	*15	4	*19	20	14
Elsewhere in Ohio.	*16	4	*20	21	14

†These 5 points are: Hicksville, Celina, Arlington, Mortimer and Nevada, O.

*Dealers and commercial accounts get 2c per gal. off t.w. price.

††These 11 points are: Findlay, Arcadia, Perrysburg, Fostoria, Wapakoneta, Urbana, Jamestown, Marion, St. Paris, Ada and Piqua. Discount to dealers is 3c per gal. off t.w. price.

**Discount to dealers and commercial consumers is 3c per gal. off t.w. price.

MAGNOLIA PETROLEUM

Muskogee, Okla.	13	4	17	20	13
Oklahoma City	13	4	17	20	10
Tulsa, Okla.	11	4	15	19	10
Fort Smith, Ark.†	12	†4	16	20	12
Little Rock, Ark.	15	5	20	24	13
Texarkana, Ark.*	13	*4	17	21	12
Dallas, Tex.	13	4	17	21	13
Fort Worth, Tex.	13	4	17	20	12
Houston, Tex.	13	4	17	21	13
San Antonio, Tex.	13	4	17	21	11
El Paso, Tex.	13	4	17	21	16

*Within city of Texarkana, the state tax on gasoline is 4c per gal. conforming with the Texas state tax. In this district outside of the city the 5c Arkansas tax applies.

†Within city of Fort Smith, Oklahoma tax of 4c applies. In this district outside of the city, the 5c Arkansas tax applies.

S. O. NEW YORK

Due to local price conditions at many points in S. O. New York territory, actual prices on both gasoline and kerosene are being made at under the posted tank wagon prices published below.

New York City	17	2	19	*21	15
Albany, N. Y.	15	2	17	19	15
Buffalo, N. Y.	15	2	17	19	14
Rochester, N. Y.	15	2	17	19	13
Syracuse, N. Y.	15	2	17	19	12
Boston, Mass.	16	2	18	20	15
Augusta, Me.	16	4	20	22	15
Manchester, N. H.	16	4	20	22	15
Burlington, Vt.	16	4	20	22	13

Note: S. O. New York allows concessions of 1 to 2c per gal. to dealers under posted tank wagon prices.

*The Standard of New York does not operate stations in New York City. This figure is the retail price of a principal station operator in New York selling Socony gasoline.

ATLANTIC REFINING

Pittsburgh, Pa.	17	*	17	23	14
Philadelphia, Pa.	17	*	17	23	14
Allentown, Pa.	17	*	17	23	14
Erie, Pa.	13	*	13	19	14
Scranton, Pa.	17	*	17	23	14
Altoona, Pa.	17	*	17	23	14
Williamsport, Pa.	16	*	16	20	14

Above prices include these inspection fees on both gasoline and kerosene, per gallon: Alabama, 1,40c on gasoline, 1/2c kerosene; Arkansas, 1/20c on both; Florida, 1/8c on both; Georgia, 1/10c on both; Indiana, 4/25c to 1/2c on both; Kansas, 3/50c on both; Louisiana, 1/32c on gasoline; Minnesota, 3/50c on both; Missouri, 3/10c to 1/2c on both; Nebraska, 3/50c to ½c on both; North Carolina, 1/4c on both; North Dakota, 1/20c on both; Oklahoma, 4/25c on both; South Carolina, 1/8c on both; South Dakota, 1/10c on both; Tennessee, 2/5c on gasoline and 1/2c to 4/5c on kerosene; Wisconsin, 3/50c on both.

Kerosene inspection fees only, per gallon; Iowa, 7/100c; Michigan 1/5c to 4/5c per gal.

In Illinois, cities and villages have the power to appoint oil inspectors and fix inspection fees which is done in some instances. In some cases in the above state or other states there are local inspection fees.

Tank Wagon, Service Station Markets for Gasoline and Kerosene

Prices in Effect July 22, 1929

ATLANTIC REFINING

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Dover, Del.	17	3	20	22	14
Wilmington, Del.	17	3	20	22	14
Boston, Mass.	16	2	18	20	15
Springfield, Mass.	16	2	18	20	15
Worcester, Mass.	15	2	17	18	15
Fall River, Mass.	14	2	16	17	15
Providence, R. I.	14	2	16	17	15
Hartford, Conn.	16	2	18	20	14
New Haven, Conn.	16	2	18	20	15
Atlantic City, N. J.	16	2	18	20	13
Camden, N. J.	16	2	18	20	13
Trenton, N. J.	16	2	18	20	13
Annapolis, Md.	16	4	20	22	13
Baltimore, Md.	16	4	20	22	13
Hagerstown, Md.	16	4	20	22	13
Richmond Va.	16	5	21	23	1
Wilmington, N. C.	16	5	21	23	13
Brunswick, Ga.	17	4	21	23	**16.5
Jacksonville, Fla.	17	5	22	24	14.5

Note: 2c per gal. discount off t.w. price to dealers thru territory; also 2c off to commercial accounts under contract for one year.

*4-cent state tax is collected by retail dealer and paid by him directly to state.

**Georgia kerosene prices include 1c state tax

V. M. & P. NAPHTHA

(Changes ordinarily occur coincident with gasoline price changes)

	Oleum Spirits	V.M.&P. Naphtha	Cleaner Naphtha
Chicago	15.7	17.2	19
Detroit	17.4	18.9	20.7
Kansas City	†15.9	†17.4	†19.2
Milwaukee	16.4	*19.9	*21.7
Minneapolis	*19.7	*21.2	*23
St. Louis	15.6	17.1	18.9
New York		17	23
Boston		19	23

*Includes 2c state tax. †Includes 1c city tax.

Petroleum Spirits

Tank Cars (Solvent)	
New York refineries	12.00
Philadelphia refineries	12.00
Tank Wagon or Steel Barrels	
New York City	17
New England	19
New Jersey	16
Pennsylvania	16-18

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons)

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
ONTARIO					
Toronto	20.5	5	25.5	29	21
Ottawa	14.5	5	19.5	23	21
Cochrane	25.5	5	30.5	..	26
Ft. William	23.5	5	28.5	32	23.5
MANITOBA					
Winnipeg	22.5	3	25.5	29	22.5
SASKATCHEWAN					
Regina	27	3	30	34	27
ALBERTA					
Edmonton	28.5	5	33.5	37	28.5
Calgary	24.5	5	29.5	33	24.5
BRITISH COLUMBIA					
Vancouver	23	3	26	30	24
QUEBEC					
Montreal	21.5	5	26.5	30	22
Quebec City	22.5	5	27.5	31	23
Three Rivers	22.5	5	27.5	31	23
NEW BRUNSWICK					
St. John	25	5	30	34	25
Moncton	25	5	30	34	25
NOVA SCOTIA					
Halifax	25	5	30	34	25
Sydney	25	5	30	34	25
PRINCE EDWARD ISLAND					
Charlottetown	25	5	30	34	25

Note: In districts surrounding these points 1c additional is added to city price.

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NAPHTHA — GAS — OILS
WAX — PETROLEUM COKE
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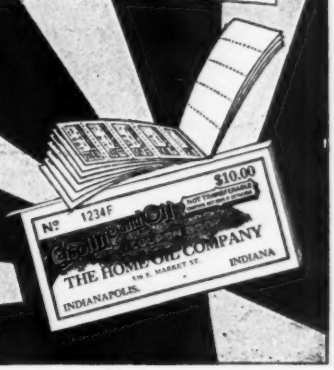

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30c A QUART

THE NEW TAGOLENE MOTOR OIL

MADE TO STAND ABUSE

Crude Oil Prices (in Effect July 22, 1929)

(Crude prices for the whole year in OIL PRICE HANDBOOK published annually)

EASTERN FIELDS

(Posted by Joseph Seep Purchasing Agency)

Penna. Grade Oil in New York Transit Lines (Allegheny, N. Y. District)	*$3.80
Bradford District Oil in National Transit Lines (Bradford District)	*3.80
Penna. Grade Oil in National Transit Lines (Other Pennsylvania)	*3.80
Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania)	3.75
Penna. Grade Oil in Eureka Pipe Lines (West Virginia)	3.65
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O. district)	3.50
Cabell Grade in Eureka Pipe Lines (West Virginia)	1.65
Corning Grade in Buckeye Pipe Lines (Ohio)	1.90
Corning, O., heavy grade	1.80
Somerset Oil in Cumberland Pipe Lines (Kentucky)	1.80
Ragland Grade in Cumberland Pipe Lines (Kentucky)	$0.60

***Oil run prior to July 1, 1929 is $3.75 per bbl.**

(Posted by Stoll Oil Refining Co.)

Oil City, Ky., oil in Stoll lines	$1.80

MICHIGAN

(Posted by Dixie Oil Co.)

Dundee (Muskegon)	$1.10

Traverse (Muskegon):

32-32.9	$1.25	37-37.9	$1.50
33-33.9	1.30	38-38.9	1.55
34-34.9	1.35	39-39.9	1.60
35-35.9	1.40	40-40.9	1.65
36-36.9	1.45	41-41.9	1.70

(Posted by Pure Oil Co.)

Midland, Midland County	$1.70

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.

Effective May 21, 1929

Wooster	$1.90	Princeton	$1.75
Lima	1.80	Illinois	1.75
Waterloo	1.20	Plymouth	1.28
Indiana	1.57	West Kentucky	1.83

CANADIAN CRUDE

Posted by Imperial Oil Refineries, Ltd.

Petrolia	$2.20
Oil Springs	2.27

OKLAHOMA, KANSAS and NORTH TEXAS

Prices of Prairie Oil & Gas Co.

(In Oklahoma, Kansas, North and East Central Texas)

Effective May 20, 1929

Below 25	$0.85	35-35.9	$1.40
25-25.9	0.90	36-36.9	1.45
26-26.9	0.95	37-37.9	1.50
27-27.9	1.00	38-38.9	1.55
28-28.9	1.05	39-39.9	1.60
29-29.9	1.10	40-40.9	1.65
30-30.9	1.15	41-41.9	1.70
31-31.9	1.20	42-42.9	1.75
32-32.9	1.25	43-43.9	1.80
33-33.9	1.30	44 and above	1.85
34-34.9	1.35		

Humble Oil & Refining Co. Prices

(Ranger, North Texas, Mexia, Powell, Boggy Creek, Richland, Wortham, Lytton Springs, Currie, Moran and Nocona crudes all in Texas.)

May 20, 1929, same schedule as Prairie in above fields.

Magnolia Petroleum Co.

(In Oklahoma, Kansas and North and East Central Texas)

May 20, 1929, Magnolia posted in above fields and in Panola Co., same schedule as Prairie, except these grades:

Below 26	$0.70	29-29.9	$0.95
26-26.9	0.75	30-30.9	1.05
27-27.9	0.85	31-31.9	1.15
28-28.9	0.90		

May 20, 1929, Glasscock, Crane, Upton, Winkler, Howard and Mitchell Counties same prices as Humble's postings in West Texas which see:

Iatan district	$0.93
Corsicana heavy	0.80
Luling	0.90
Mirando	0.90

Carter Oil Co.

(Oklahoma and Kansas)

May 20, 1929, same schedule as Prairie except Carter does not post oil below 25.

PANHANDLE, TEXAS

Humble Oil & Refining Co.

Effective May 20, 1929

Hutchinson and Carson Counties:

Below 32	$0.90	38-38.9	$1.25
32-32.9	0.95	39-39.9	1.30
33-33.9	1.00	40-40.9	1.35
34-34.9	1.05	41-41.9	1.40
35-35.9	1.10	42-42.9	1.45
36-36.9	1.15	43-43.9	1.50
37-37.9	1.20	44 and above	1.55

Wheeler County:

Below 30	$0.90	37-37.9	$1.30
30-30.9	0.95	38-38.9	1.35
31-31.9	1.00	39-39.9	1.40
32-32.9	1.05	40-40.9	1.45
33-33.9	1.10	41-41.9	1.50
34-34.9	1.15	42-42.9	1.55
35-35.9	1.20	43-43.9	1.60
36-36.9	1.25	44 and above	1.65

Gray County:

Below 29	$0.90	37-37.9	$1.35
29-29.9	0.95	38-38.9	1.40
30-30.9	1.00	39-39.9	1.45
31-31.9	1.05	40-40.9	1.50
32-32.9	1.10	41-41.9	1.55
33-33.9	1.15	42-42.9	1.60
34-34.9	1.20	43-43.9	1.65
35-35.9	1.25	44 and above	1.70
36-36.9	1.30		

Above prices met by The Texas Co. and Magnolia on May 20.

WEST TEXAS

Humble Oil & Refining Co.

Effective May 20, 1929

Winkler, Crane, Upton, Crockett, Howard and Pecos Counties, also Lea County, N. Mex.

Below 25	$0.70	25-25.9	$0.74
26-26.9	$0.78	32-32.9	$1.02
27-27.9	0.82	33-33.9	1.06
28-28.9	0.86	34-34.9	1.10
29-29.9	0.90	35-35.9	1.14
30-30.9	0.94	36 and above	1.18
31-31.9	0.98		

May 20, 1929, The Texas Co. posted same prices as Humble in Crane, Upton, Pecos and Winkler., and Magnolia in Crane, Upton, Winkler, Glasscock, Howard and Mitchell.

SOUTHWEST TEXAS

(Posted by Humble Oil & Refining Co.)

Effective May 20, 1929

Mirando	$0.90
Salt Flat	1.25

NORTH LOUISIANA—ARKANSAS FIELDS

Prices of Standard Oil Co. of Louisiana

Caddo, Homer, Haynesville, Bull Bayou, El Dorado, Crichton, De Soto and **Cotton Valley.

Effective May 22, 1929

Below 28	$1.00	36-36.9	$1.45
28-28.9	1.05	37-37.9	1.50
29-29.9	1.10	38-38.9	1.55
30-30.9	1.15	39-39.9	1.60
31-31.9	1.20	40-40.9	1.65
32-32.9	1.25	41-41.9	1.70
33-33.9	1.30	42-42.9	1.75
34-34.9	1.35	43-43.9	1.80
35-35.9	1.40	44 and above	1.85

**Cotton Valley, below 36, $0.85. Beginning with 36-36.9, same schedule as above.

Smackover, below 24	$0.85
do 24 and above	1.00
Bellevue	1.30
*Urania, La	1.10
†East El Dorado	0.75

*Posted by Louisiana Oil Refining Corp.

†Posted by Magnolia Petroleum Co.

May 20, The Texas Co. same schedule in Louisiana as Standard, plus these grades: 24-24.9, $0.85; 25-25.9, $0.90; 26-26.9, $0.95; 27-27.9, $1.00.

May 22, Magnolia, Atlantic, Shreveport-Eldorado Pipe Line, Louisiana Oil, and Gulf Companies met Standard schedule in Louisiana-Arkansas fields.

STEPHENS, ARKANSAS

Louisiana Oil Refining Corp., and Atlantic Oil Producing Co.

Effective May 22, 1929

Below 28	$0.90	30-30.9	$1.02
28-28.9	0.94	31-31.9	1.06
29-29.9	0.98	32 and above	1.10

GULF COASTAL

Posted by Humble Oil & Refining Co.

Effective May 20, 1929

Grades A	$1.30	29-29.9	$1.30
Grades B:		30-30.9	1.33
Below 25	$1.15	31-31.9	1.36
25-25.9	1.18	32-32.9	1.39
26-26.9	1.21	33-33.9	1.42
27-27.9	1.24	34-34.9	1.45
28-28.9	1.27	35 and above	1.48

Fields classified as A and B are Spindletop, Goose Creek, Hull, Liberty, Sour Lake, West Columbia, Orange, Boling, Pierce Junction, Sugarland and Raccoon Bend. All other fields are Grades A only.

Continental's Filter House Destroyed by Fire

CLEVELAND, July 20.—Fire completely destroyed the filter house of the Continental Refining Co. at Oil City, Pa., July 18. Other departments were not damaged and are continuing operations as usual. Loss was estimated at $200,000 to $300,000.

Three filter house employees were burned. All windows in the office building were blown out and office workers and officials were thrown from their chairs.

All 28 filters were full when the fire, of unknown origin, started at 2:15 p.m. It burned until 4 p.m. the following day.

That the fire was confined to the filter house was due largely to cooperation of the Pennzoil Co. and the Independent Refining Co., said C. F. Felton, Continental sales manager. These neighbor refineries sent over entire crews and fire fighting equipment.

Definite plans have not been made yet, Mr. Felton said, but the filter house will be rebuilt completely.

Wisconsin Association Directors To Meet

MILWAUKEE, July 20.—Officers and directors of the Wisconsin Petroleum Association, Milwaukee, plan to meet here July 30 to discuss future activities of the association, according to the July edition of *The Thunder Bird*, organ of the association.

Fewer meetings and more attendance is the aim of the association for the coming year. Four regular ones have been planned yearly, the first one to be held in September.

Legislation will be given a major part of the time at the coming meeting of the directors and a special committee on legislation will be appointed as in previous years.

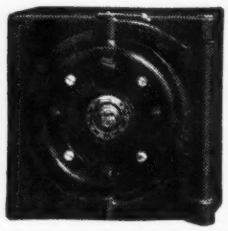
Wadhams Man Talks To Jobbers

MILWAUKEE, July 20.—M. G. Peeters, of the Wadhams Oil Co., addressed the oil jobbers division of the Wausau Chamber of Commerce, July 8. Mr. Peeters' subject was "Ethics and Marketing in the Oil Business," according to *The Thunder Bird*, organ of the Wisconsin Petroleum Association, Milwaukee.

Oil jobbers of the Chippewa Valley territory have formed a district organization called The Chippewa Valley Petroleum Association. Regular meetings will be held and oil problems discussed.

Is this burglar spending your money?

He has made another successful raid upon a filling station. The money he is spending upon Wine, Women and Automobiles belongs to the owner of a station in a town a hundred miles away. Will he be spending your money next week? Not if you install a York Burglary Chest,



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On good roads or bad roads, loaded or light, Brown tanks will remain tight. No secret reinforcements nor mysterious highsounding features. Just good honest full weight material correctly built by real tradesmen. The Brown Certified Truck Tank is the result of practical oil men's experience. From the oil man's standpoint, we offer just what you expect—efficient service—oil-tight at all times—and attractive appearance—priced right. Get our figures and compare the facts.

A 1650 gallon with stake barrel carriers and underslung canboxes

BROWN SHEET IRON & STEEL CO. **ST. PAUL, MINN.**

Tear out this Coupon and mail it today

Make of Truck.....**Size Tank Required**.....

Other equipment on which you may send prices.....

Name.....**Address**.....

Crude Oil Prices (in Effect July 22, 1929)

(Crude prices for the whole year in OIL PRICE HANDBOOK published annually)

GULF COASTAL

Prices of The Texas Co.

Effective May 20, 1929

Grades A.....$1.30 *Grades B.....$1.15

‡Grades B (light crude):

35-35.9	$1.49	40-40.9	$1.69
36-36.9	1.53	41-41.9	1.73
37-37.9	1.57	42-42.9	1.77
38-38.9	1.61	43-43.9	1.81
39-39.9	1.65	44 and above	1.85

*Grades B include all heavy crudes which do not meet tests for Grades A or for Gulf Coast light crude.

‡The Texas Co.'s gravity and price schedule on all below 35° is same as Humble's postings on Grades B.

ROCKY MOUNTAIN FIELDS

Prices of Ohio Oil Co., and Midwest Refining Co.

(Salt Creek prices effective May 20, 1929)

‡Salt Creek 29-29.9	$1.10
" " 30-30.9	1.15
" " 31-31.9	1.20
" " 32-32.9	1.25
" " 33-33.9	1.30
" " 34-34.9	1.35
" " 35-35.9	1.40
" " 36-36.9	1.45
" " 37 and above	1.50
Elk Basin	1.65
Grass Creek light	1.65
Big Muddy	$1.43
Lance Creek	1.68
Rock Creek	1.40
Mule Creek	1.20
Rex Lake	1.10
‡Osage	1.65
‡Cat Creek, Mont	1.65
Sunburst, Mont	1.75
‡Hogback, N. Mex	1.70
Artesia, N. Mex	1.08

‡Posted by Midwest Refining Co. Midwest also buys Grass Creek light and Elk Basin.

CALIFORNIA

***Standard Oil Co. of California**

Gravity	Signal Hill Seal Beach Alamitos Heights Huntington Beach	Inglewood Torrance	Olinda-Brea Canon Richfield	Athens-Rosecrans Dominguez	Elwood Terrace	Whittier La Habra	Coyote Hills	Santa Fe Springs	Newhall McKittrick †Kern River	Midway Sunset Buena Vista & Elk Hills	Lost Hills	Coalinga	Wheeler Ridge	Montebello	Kettleman Hills	*Santa Maria (Orcutt)	*Ventura
14-14.9	$ .70	$ .70	$ .70	....	....	$ .70	$ .70	....	$ .50	$ .50	$ .50	$ .50	$ .50	$ .70	....	$ .65	$ .70
15-15.9	.70	.70	.70	....	....	.70	.70	....	.50	.50	.50	.50	.50	.70	....	.65	.70
16-16.9	.70	.70	.70	....	....	.70	.70	....	.50	.50	.50	.50	.50	.70	....	.65	.70
17-17.9	.70	.70	.70	....	....	.70	.70	....	.50	.50	.50	.50	.50	.70	....	.65	.70
18-18.9	.75	.75	.75	....	....	.75	.75	....	.50	.56	.56	.56	.56	.70	....	.70	.75
19-19.9	.80	.80	.80	....	....	.80	.80	....	.50	.62	.62	.62	.62	.75	$1.65	.70	.80
20-20.9	.85	.85	.85	....	....	.84	.84	....	....	.68	.68	.68	.68	.80	for	.70	.85
21-21.9	.89	.89	.89	....	....	.88	.88	.89	....	.74	.74	.74	.74	.85	55°	.86	.86
22-22.9	.93	.93	.93	....	....	.91	.91	.92	....	.80	.80	.80	.80	.90	gravity	.87	.87
23-23.9	.97	.97	.97	....	....	....	.94	.95	....	.85	.85	.85	.85	.95	and	.90	.90
24-24.9	1.01	1.01	1.01	1.01	....	....	.97	.98	....	.90	.90	.88	.88	.98	over	.94	.94
25-25.9	1.05	1.05	1.05	1.05	....	....	1.00	1.01	....	.95	.95	.91	.91	1.01	....	.98	.98
26-26.9	1.09	1.09	1.09	1.09	....	....	1.04	1.04	....	1.00	1.00	.94	.94	1.04	....	1.02	1.02
27-27.9	1.13	1.13	1.13	1.13	....	....	1.08	1.07	....	1.05	1.05	.98	.97	1.07	....	....	1.06
28-28.9	1.17	1.17	1.17	1.17	....	....	1.12	1.10	....	1.10	1.10	1.02	....	1.10	....	....	1.10
29-29.9	1.21	....	1.21	1.21	....	....	1.16	1.15	....	1.16	1.16	1.06	....	1.13	....	....	1.14
30-30.9	1.25	....	1.25	1.25	....	....	1.20	1.20	....	1.22	1.22	1.10	....	1.16	....	....	1.18
31-31.9	1.30	....	....	1.30	....	....	....	1.25	....	1.28	1.28	1.14	....	....	....	....	1.23
32-32.9	1.35	....	....	1.35	....	....	....	1.30	....	1.34	1.34	1.18	....	....	....	....	1.28
33-33.9	....	....	....	1.41	....	....	....	1.35	....	1.40	1.40	1.22	....	....	....	....	1.34
34-34.9	....	....	....	1.47	$1.16	....	....	1.40	....	....	1.46	1.26	....	....	....	....	....
35-35.9	....	....	....	1.53	1.22	....	....	1.45	....	....	....	1.30	....	....	....	....	....
36-36.9	....	....	....	1.59	1.28	....	....	1.50	....	....	....	....	....	....	....	....	....
37-37.9	....	....	....	1.65	1.34	....	....	1.55	....	....	....	....	....	....	....	....	....
38-38.9	....	....	....	1.71	1.40	....	....	1.60	....	....	....	....	....	....	....	....	....
39-39.9	....	....	....	1.77	1.46	....	....	1.65	....	....	....	....	....	....	....	....	....
40-40.9	....	....	....	1.83	1.52	....	....	....	....	....	....	....	....	....	....	....	....
41-41.9	....	....	....	1.89	1.58	....	....	....	....	....	....	....	....	....	....	....	....
42-42.9	....	....	....	1.95	1.64	....	....	....	....	....	....	....	....	....	....	....	....

*Santa Maria and Ventura postings are by Union Oil Co. Union Oil Co. posts same prices in all above fields as Standard except it does not post prices in Wheeler Ridge, Whittier, La Habra, Newhall and Kettleman Hills. Standard does not contract for crude testing 11-13.9 gravity, but pays 45c a barrel when purchased.

†Kern River down to 12° gravity is 50c; 11-11.9 is 45c.

REFINERS' and COMPOUNDERS' SUPPLIES

Following are average market prices for materials used by refiners and compounders effective on the date shown.

Refiners' Supplies

	July 22	July 15
Soda Ash light 58% bags, cwt.	$1.32	$1.32
Silicate of Soda 60 deg. drums, cwt.	$1.55	$1.55
Silicate of Soda 40 deg. tank cars, cwt.	$0.60	$0.60
Silicate of Soda 40 deg. drums cwt.	$0.80	$0.80
Sal Soda wks.	$0.90-1.00	$0.90-1.00
Caustic Soda 76% solid, cwt.	$2.90	$2.90
Sulfuric Acid 60 deg. tank cars, f.o.b. shipping point per ton	$11.00	$11.00
Oleum 20%, fuming sulfuric, tank cars, wks.	$18.50	$18.50
Sulfur, flowers of cwt.	$3.50-4.50	$3.50-4.50
Liquid Chlorine, tank cars, wks lb.	3.50–5.00	3.50–5.00

Compounders' Supplies

	July 22	July 15
Vegetable Oils		
Linseed carloads, spot lb.	11.20	11.20
Tanks, spot	10.40	10.40
Soya Bean, Tanks, coast, lb.	8.50	9.00
Oleic Acid		
Distilled, tanks lb.	9.25	9.50
Distilled, bbls. lb.	10.375	10.375
Saponified, tanks lb.	9.50	9.75
Saponified, bbls. lb.	10.625	10.625
Lard Oils		
Prime Winter Strained lb.	15.00	15.00
Extra Winter Strained lb.	13.00	13.00
Extra lb.	12.625	12.265
Extra No. 1 lb.	12.00	12.00
No. 1 lb.	11.75	11.75
No. 2 lb.	11.50	11.50
Tallow oil lb.	10.75	10.75
Neatsfoot Oil		
Pure, bbls. lb.	13.50	13.50
Extra, bbls. lb.	12.25	12.25
No. 1 bbls. lb.	12.00	12.00
Cold Pressed lb.	18.75	13.75
Fish Oils		
Menhaden Oil		
Light Pressed gal.	72	72
Light Pressed, tank cars, N.Y. gal.	62	62
White bleached gal.	77	78
Yellow bleached gal.	75	75
Whale, extra winter bleached, gal.	82	84
Naval Stores		
Steam distilled turpentine, N. Y. gal.	51	51
Steam distilled turpentine, Savannah gal.	45	45
Gum turpentine, N. Y. gal.	50	50
Gum turpentine, f.o.b. cars Savannah gal.	48	48
Wood Rosin F, N. Y. bbl.	$7.30	$7.30
Wood Rosin F, Savn'h bbl.	$6.50	$6.50
Gum Rosin B, N. Y. bbl.	$8.60	$8.60
Gum Rosin B, f.o.b. cars Savannah bbl.	$7.75	$7.75
Rosin oil, pure gal.	61	61
Rosin oil, compounded gal.	50	50
Pine Tar		
Kiln burnt bbl.	$13.00–14.00	$13.00–14.00
Retort bbl.	$13.50–14.50	$13.50–14.50
Alcohol		
Denatured Formula 5, in bbls., per gal.	57–64	57–64

Farmers Using More Oil

CLEVELAND, July 20.—A growing market for oil is seen in the trend of agriculture toward the adoption of larger sizes of oil-consuming, tractor-drawn plows and other farm machinery and the abandonment of horse-drawn equipment, in a census of manufactures on the manufacture and sale of farm equipment for 1928 recently released by the Bureau of Census at Washington.

Of the 110,349 plows sold by manufacturers in 1928, 6526 were the four-bottom and larger tractor plows, 25,221 were three-bottom (tractor and sulky), 59,189 two-bottom and 19,413 were one-bottom.

Value of tractors sold in 1928 in this country totaled $122,281,032, compared with value of $131,667,221 in 1927, and $105,001,649 in 1926.

Value of tractors produced in 1928 was $191,978,126, compared with $159,530.521 in 1927 and $145,912,489 in 1926.

Of the disk plows, five-disk and larger tractor plows were most in demand, more than 9000 of those being sold by manufacturers in 1928. There were 7583 two-disk (horse and tractor) plows sold, 1675 three-disk (horse and tractor) and 974 of four-disk (tractor) plows.

Of the 12,863 tractor-drawn cultivators manufactured in 1928, all but 182 were sold. More than 4000 motor cultivator tractors were sold.

A total of 105,718 internal combustion engines were sold for farm use, some 94,000 of these being of less than five horsepower. There were 905 of 15 to 20 horsepower engines sold.

Power-operated lawn mowers sold for farm use totaled 12,401 compared with 879,484 hand-operated mowers.

No statistics are available as to the average fuel consumption of the various types of farm machinery.

Fuel Briquet Production Smaller in 1928

WASHINGTON, July 19.—Production of fuel briquets in 1928 totaled 947,423 net tons, valued at $7,705,617 according to the Bureau of Mines. This compares with output of 970,468 net tons in 1927 and value of $7,985,165.

Sales declined only 4.8 per cent in 1928 from the high level of 1926, despite an abundant supply of anthracite and bituminous coal. There were 21 plants operating in 1928 including three making briquets from the carbon residue of oil gas.

Per ton value declined from $8.23 in 1927 to $8.13 in 1928.

Eight per cent of the briquets made in 1928 was from carbon residue and Welsh anthracite screenings.

The three plants making this product from semi-coke, from petroleum residue and by coking bituminous slack and free-burning slack were, respectively, those of the West Virginia Super Fuel Co., at Moundsville, W. Va., the San Diego Gas & Electric Corp. at San Diego, Calif., and the Pacific Coast Coal Co. plant at Renton, Wash.

The foregoing information is contained in "Fuel Briquets in 1928" No. II-1, which may be obtained from the U. S. Government Printing Office at Washington, for five cents.

Wayside Improvement Slogan Chosen

NEW YORK, July 20.—A slogan under which the work of the Art Center, Inc. will carry on its campaign to endeavor to beautify the countryside of America and eliminate ugly advertising, was chosen recently when Miss Marion Boyd, a 17-year-old high school girl of Detroit won the prize with her "This is your country—preserve it."

Miss Boyd's slogan was chosen by competent judges from among 6000 submitted by high school students over the country. As a reward, she was given a three-day trip to Washington, D. C., with expenses paid for herself and companion. President Hoover made the award on June 25.

Mrs. John D. Rockefeller, Jr., is sponsor of this campaign in connection with the Art Center, Inc., 65 East 56th St., New York.

R. D. Lowe, manager, Elk Refining Co., Charleston, W. Va., who was elected president of the West Virginia Oil Marketers Association recently.

Kerosene is 88c in Honduras

WASHINGTON, July 18.—A compilation of retail gasoline and kerosene prices at 70 important points throughout the world, outside the United States, recently completed by the Bureau of Foreign and Domestic Commerce, Department of Commerce, reveals 23 cents as the minimum price and 68 cents as the maximum price of gasoline as of the end of March this year.

The minimum price obtained at Toronto and Montreal and the maximum at Nairobi, in British East Africa.

A maximum price of 88.2 cents for kerosene was reported at Tegucigalpa, Honduras, in Central America, this being more than 20 cents higher than the highest gasoline price in the world. The gasoline price at this point was 51.4 cents, or 36.8 cents less than kerosene.

Other points having prices 50 cents or above per gallon on gasoline are: Teheran, Persia, 63.1 cents; La Paz, Bolivia, 59.4 cents; Tananarive, Madagascar, and Johannesburg, South Africa, each 55 cents; Belgrade, Yugoslavia 53.2 cents; and San Jose, Costa Rica, 50 cents.

In Suva, of the Fiji Island group in the South Seas, gasoline retails for 46 cents per gallon, while kerosene is 49 cents.

The lowest kerosene price in this list of cities was 15.2 cents at Helsingfors, Finland; the second lowest, 17 cents at Tallinn, Estonia; and the third, 18.9 cents, at Vienna, Austria. Highest kerosene prices were in effect at these points: La Paz, Bolivia, 53.2 cents; Belgrade, Yugoslavia, 50 to 53.2 cents; Athens, Greece, 48 cents; Monrovia, Liberia, from 39 to 48 cents; and Tananarive, Madagascar, 44 cents.

Many of the prices quoted above are per imperial gallon, which is 1.2 American gallons. In making comparisons, it must be remembered that various factors tending toward price inequalities should be taken into consideration, such as nearness of source of supply, quantity consumed, transportation costs, import duties, taxes, distribution costs, and so on.

Haynes Stellite Co., 30 E. 42nd St., New York, will place a new tool on the market called Haystellite, a tungsten-carbide type of cutting tool for oil well bits. It is made of cast alloy by a special process and is claimed to be equal in cutting quality and more uniform than many other tools of this type.

NIGHT WORK

Many Shell Motor Oil Jobbers work nights—but none of them complain. It is always a good sign when a man's day is never long enough for him to take care of the business which comes his way.

Here are some reasons for the extraordinary success of Shell Motor Oil Jobbers:—

1. **The popularity and reputation of the Shell name.**
2. **The outstanding quality of Shell Motor Oil itself.**
3. **The restricted number of Shell Motor Oil franchises.**
4. **The rapid natural growth of Shell Motor Oil sales.**

There are still some territories in which the franchise for Shell Motor Oil has not yet been awarded. Your inquiry is invited.

SHELL MOTOR OIL

SHELL PETROLEUM CORPORATION • • SHELL BLDG. • • SHELL CORNER • • ST. LOUIS

Branch Offices: Chicago, Ill. • • Cleveland, Ohio • • Kansas City, Mo. • • Tulsa, Okla.

Transactions in Oil Shares on New York Stock Exchange

1928 High	1928 Low	1929 High	1929 Low	Listed Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions Week Ended July 20 Sales	First	High	Low	Last	Change
43⅞	27⅛	42⅜	22½	(sh) 922,075	N.P.	Amerada Corp.	50cQ	Apr. 30, 29	15,600	32⅛	32⅛	28¾	31	— ⅞
85	51¼	64¾	43⅛	(sh) 209,180	N.P.	American Republics Corp.	....	.....	2,500	45	47⅞	44¾	44⅞	— 1⅛
53⅜	37½	47¼	40	$56,000,000	$25	Associated Oil.	50cQ	June 30, 29	190	44½	45	44½	44½	0
62½	50	77⅛	53½	50,000,000	25	Atlantic Refining.	‡25cQ	June 15, 29	124,700	69¼	69¼	66	67⅜	— 1½
118¼	114½	117⅝	114	20,000,000	100	do pfd.	$1.75Q	May 1, 29	.....	....	....	....	....	....
53	20	49⅛	38⅛	47,261,125	25	Barnsdall Corp. A.	50cQ	May 6, 29	45,900	40	40⅝	39	39	— 1
51⅛	20	49	38⅛	300,525	25	do B.	50cQ	May 6, 29	.....	....	....	....	....	....
24½	12¼	29½	20	(sh) 956,075	N.P.	Beacon Oil.	....	.....	115,400	27½	32⅞	27⅛	31½	+ 3
36	25¼	30	25	$51,524,150	$25	California Petroleum.	....	Jan. 1, 29	280	27	27	26	26	— 1
.....	.....	35⅞	32	(sh) 4,634,163	N.P.	Continental Oil (Delaware).	....	.....	41,600	33⅝	34	†32	32⅝	— 1⅞
94⅞	68	87⅜	63	21,031,400	100	General Asphalt.	....	.....	53,600	86⅞	90⅞	85¾	89⅜	+ 2¾
141	110⅛	131	104½	6,628,200	100	do pfd.	$1.25Q	June 1, 29	.....	....	....	....	....	....
167	79	107	70½	25,000,000	100	Houston Oil.	....	.....	2,400	77	79¾	70	77½	— ½
38⅜	21¾	39¼	30	(sh) 1,333,157	N.P.	Independent Oil & Gas.	50cQ	Apr. 30, 29	17,800	34¾	34¾	33½	33½	— ⅞
39⅝	9	52⅝	29	$4,299,190	$10	Indian Refining.	....	Dec. 15, 20	33,400	43⅛	43⅛	40⅜	41⅛	— 2
37¼	8½	48¾	28	4,550,110	10	do ctfs.	....	.....	14,900	41⅝	41⅝	38⅝	40	— 1¾
185	140	165	160	1,977,700	100	do pfd. new.	$1.75Q	July 1, 29	.....	....	....	....	....	....
39⅛	27¾	38⅜	26	3,992,387	N.P.	Lago Oil & Transport.	....	May 2, 27	5,000	33⅛	35½	33⅛	35	+ ¾
19¾	9⅜	18	11¾	(sh) 1,187,298	N.P.	Louisiana Oil Refining.	....	.....	11,400	12⅛	12⅛	†11¾	11¾	— ⅜
96	78	100	89	$4,000,000	$100	do pfd.	$1.62½	May 15, 29	270	92	92	92	92	0
25½	12½	18½	12	(sh) 330,000	N.P.	Maracaibo Oil.	....	.....	3,800	14⅛	16	13⅛	15¼	+ 1⅞
49¾	33	47⅛	33⅜	(sh) 2,316,897	N.P.	Marland Oil Co.	....	Mar. 31, 27	.....	....	....	....	....	....
360	250	295	205	$45,942,800	$100	Mexican Petroleum.	$3Q	July 20, 29	.....	....	....	....	....	....
.....	.....	.....	.....	12,000,000	100	do pfd.	$2Q	July 20, 29	.....	....	....	....	....	....
73	4⅝	69⅜	36¼	(sh) 995,500	N.P.	Mexican Seaboard.	....	Nov. 15, 24	37,800	45	45⅞	39	40	— 6
44⅛	25⅛	39⅞	30½	(sh) 1,857,461	N.P.	Mid-Continent.	50cQ	May 15, 29	8,800	33	33	32½	32½	— ½
120½	103¼	121	120¼	$6,718,000	$100	do pfd.	$1.75Q	June 1, 29	.....	....	....	....	....	....
7⅜	2⅜	5⅛	3½	23,849,720	10	Middle States.	....	July 1, 23	7,200	3½	3⅝	3½	3½	0
5⅞	1½	3½	2¼	5,950,500	10	do ctfs.	....	.....	2,600	2¾	2⅞	2¼	2¼	— ¼
2¼	1	1½	1	(sh) 3,500,000	N.P.	Pacific Oil.	....	.....	5,300	1	1⅛	1	1	0
55½	38¼	63	41⅛	$50,000,000	$50	Pan American P. & T.	....	Oct. 20, 27	17,500	56	62	56	62	+ 5⅞
58⅞	37¾	66¾	40½	121,101,400	50	do B.	....	Oct. 20, 27	303,700	60¼	64¾	59	63⅛	+ 2⅞
28⅜	15½	17½	13¾	(sh) 400,000	N.P.	Pan American Western B.	....	Jan. 30, 27	660	14	14½	13¾	14⅛	— ⅛
21⅜	11½	15¼	9	(sh) 199,370	N.P.	Panhandle P. & R.	....	.....	1,300	9	9¼	†9	9	— ½
106¼	70	76	47½	$2,935,200	$100	do pfd.	....	July 2, 23	.....	....	....	....	....	....
53⅞	35¼	47	35½	(sh) 2,406,803	N.P.	Phillips Petroleum.	37½cQ	July 1, 29	17,500	36¾	36⅞	†35½	36½	— ¼
5¼	½	3⅜	2	$29,622,925	$25	Pierce Oil.	....	.....	29,600	2	2⅛	2	2	— ⅛
50	16¼	51½	30	15,000,000	100	do pfd.	....	Feb. 1, 22	400	38	38	38	38	— 1¼
6⅝	3½	5⅞	4	(sh) 2,500,000	N.P.	Pierce Petroleum.	....	.....	8,600	4⅛	4¾	†4	4⅛	0
64⅝	59½	65⅝	53	$60,636,450	$25	Prairie Oil & Gas.	....	Aug. 31, 27	10,400	54	54½	†53	53	— 1⅛
.....	.....	61⅞	53⅝	101,250,000	25	Prairie Pipe Line.	‡75cQ	June 30, 29	17,200	60½	60¾	60	60¾	+ ¼
29⅞	16	25⅞	17	37,450,850	50	Producers & Refiners.	....	Sept. 15, 23	1,500	17⅛	17½	17	17	0
49⅝	41	45¾	38	2,845,350	50	do pfd.	....	May 1, 25	200	40¼	40¼	†38	39	— 1½
31¼	19	30¾	23½	75,959,255	25	Pure Oil Co.	37½cQ	June 1, 29	15,600	26½	26⅞	26	26¼	— ⅜
119	108	115½	111½	13,000,000	100	do 8% pfd.	$2Q	July 1, 29	150	112¼	113¼	112	113¼	+ 1
56	23½	49⅝	40	47,127,725	25	Richfield Oil.	50cQ	May 15, 29	4,200	41⅞	41⅞	40½	40½	— ½
.....	.....	42½	28½	(sh) 1,200,000	N.P.	Rio Grande Oil Co.	‡$1S.A.	July 25, 29	11,600	28½	29	26½	27	— 1½
64	44⅝	55¾	31¾	(sh) 546,646	$13.40	Royal Dutch N. Y. shares.	$1.336	Feb. 8, 29	6,400	54	54⅜	53⅜	54	+ ½
57½	39⅜	55¾	43	(sh) 65,203,000	£2	Shell Transport & T.	96.4c	Feb. 8, 29	.....	....	....	....	....	....
39⅜	23¼	31¾	26	12,254,979	N.P.	Shell Union Oil.	35cQ	July 1, 29	21,200	26½	26⅞	26¼	26⅝	+ ⅛
27½	18⅛	39⅜	18¼	$8,357,280	$10	Simms Petroleum.	40cQ	June 15, 29	225,600	37¾	*39⅜	35⅜	37¼	— ⅝
46¾	17⅜	45	35½	5,494,095	N.P.	Sinclair Consolidated.	‡50cQ	July 15, 29	81,500	35⅝	36¾	35½	35½	0
110	102½	111	107¾	$16,025,200	$100	do pfd.	$2Q	May 15, 29	100	109¾	109¾	109¾	109¾	+ ⅝
42⅝	25	46½	32⅞	27,396,590	25	Skelly Oil Co.	50cQ	June 15, 29	73,400	40⅝	43½	40	41¾	+ 1
80	53	81⅞	64	(sh) 13,016,435	N.P	S. O. California.	62½cQ	June 15, 29	60,200	73	74¼	72½	72⅞	— ⅜
59¾	37¾	62⅜	48	$612,095,850	$25	S. O. New Jersey.	‡25cQ	June 15, 29	84,900	57⅛	58	56½	57⅝	+ ½
45½	28¾	45¾	38⅝	434,094,575	25	S. O. New York.	40cQ	June 15, 29	73,200	39	40⅛	38⅝	40	+ 1
77	31½	75	57	(sh) 1,297,847	N.P.	Sun Oil.	25cQ	June 15, 29	3,800	73	*75	72¾	74⅞	+ 2⅞
110	100	105½	100	$5,000,000	$100	do pfd.	$1.50Q	June 1, 29	40	101	102	101	102	0
14¼	2½	12	7	(sh) 1,304,698	N.P.	Superior Oil Corp.	....	Dec. 20, 20	30,200	7⅝	7⅝	7⅛	7½	— ⅛
74¾	50	68½	57¼	$211,082,925	$25	The Texas Corp.	75cQ	July 1, 29	44,100	61⅝	63¼	61	62⅜	+ ¼
26⅜	12⅛	23⅞	16¼	8,380,340	10	Texas Pacific Coal & Oil.	2½% s	June 30, 29	9,600	17⅜	17⅜	16¼	16½	— 1
41½	19⅜	38½	27⅛	(sh) 2,179,275	N.P.	Tide Water Oil Co.	20cQ	June 30, 29	2,600	34	35⅛	34	35	+ 1½
100⅛	86¾	97½	89¾	$20,321,000	$100	do 5½% pfd.	$1.25Q	May 15, 29	2,400	91⅞	92½	90¼	91	— 1
25	14¾	23½	17½	(sh) 4,877,976	N.P.	Tide Water Associated.	....	Aug. 1, 27	93,400	19⅝	22¼	19½	20¼	+ ⅝
91¾	81⅞	90	84	$72,989,200	$100	do pfd.	$1.50Q	July 1, 29	2,400	87⅝	87⅝	86	87½	0
14½	6¾	13	9	(sh) 3,842,029	N.P.	Transcontinental Oil.	....	.....	51,400	12	12⅝	11½	12¼	+ ⅜
58	42¾	54½	46	$40,858,375	$25	Union Oil of California.	50cQ	May 10, 29	4,200	47¾	48⅞	47	47½	+ ½
128⅛	110	152	121⅞	31,101,200	100	Union Tank Car Co.	$1.25Q	June 1, 29	400	149½	149½	147	149½	— 2½
44⅞	26	42⅞	28½	(sh) 488,359	N.P.	Warner Quinlan.	50cQ	July 2, 29	4,200	32⅛	32⅞	31¼	31½	— ½
38	20⅛	37⅜	30¼	(sh) 490,000	N.P.	White Eagle Oil & Refining.	50cQ	July 20, 29	4,000	33¾	34¾	33⅛	34½	+ 1
22⅛	17¼	29¾	18⅛	(sh) 428,967	N.P.	Wilcox Oil & Gas.	....	May 10, 28	600	19	19	18⅛	18⅝	— ⅜

*New High †New Low XEx-dividends ‡Also extras s-Stock Total Sales 1,870,390

Pittsburgh Stock Exchange

Transactions Week Ended July 19, 1929

	Sales	High	Low	Last	Change
Ark. Nat. Gas.	44,656	*17⅞	12⅜	16⅞	+ ⅜
do pfd.	7,471	8½	8¼	8¼	— ¼
Devonian Oil.	1,359	10	9	10	+ ½
Dixie Gas & Util.	490	17	15½	17	+1
do pfd.	20	70	70	70	+ ¼
Plymouth Oil.	630	24	23	23⅛	— ⅞
Lone Star Gas.	40	88	88	88	+4
Phoenix Oil pfd.	500	.40	.40	.40	+.10
Pgh. Oil & Gas.	170	3½	3½	3½	0
Salt Creek Cons.	255	3	3	3	— ½
Wiser Oil.	100	15	15	15	+1
Unlisted					
Lone Star w.i.	11,720	*38½	35½	38½	+3
do rights.	10,048	7¾	7⅝	7⅝	+ ⅛

*New high

Pittsburgh Curb Market

Transactions Week Ended July 19, 1929

	Sales	High	Low	Last	Change
Ark. Gas A.	8,565	*17⅛	12¼	16¾	+4¼
Leonard Oil & Dev.	2,150	5½	4½	5½	+ ¾

*New High

Shell Stations to Dot New York City

NEW YORK, July 20.—Yellow and red service stations of the Shell Eastern Petroleum Products, Inc., will dot New York within a month, it was said at a dinner here July 18 of about 200 Shell officials and dealers. Stations are being opened daily by the Shell which is broadcasting its entrance into New York with a great deal of newspaper space.

William L. Day, Shell manager for New York city, was chairman of the dinner meeting. Among those present were: W. J. Files, vice-president and manager of sales of the Shell Union Oil Corp.; E. E. Overton, national manager of bulk sales; H. W. Boynton, national distribution manager; T. S. Marshall, national advertising manager, and P. W. Reifsnider, New Jersey manager.

Cleveland Stock Market

July 19	Par Value	Bid	Asked
Canfield Oil Co.	$100	...	143
do pfd.	100	103	...
Fred G. Clark.	10	13	14½
National Refining.	25	35	36
do pfd.	100	...	136
Paragon Refining.	25	21½	22
do pfd.	N.P.	41½	43
do ctfs.	..	21½	23

Oil Company Earnings

Second Quarter	1929	1928
Independent Oil.	$1,616,205	$112,517
Six Months	**1929**	**1928**
Independent Oil.	$3,635,055	*$306,881
Oilstocks Ltd.	†590,627	.....

*Loss †Before federal taxes.

Now Ready for Service Stations,

Auto Dealers and Garages

Car-life REGISTERED service

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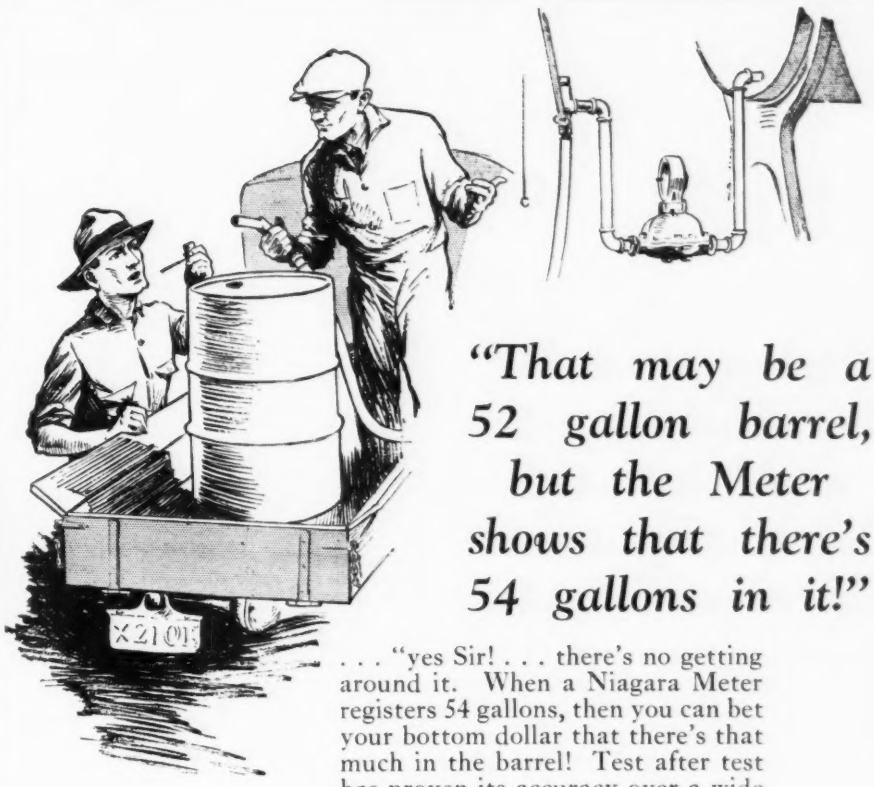

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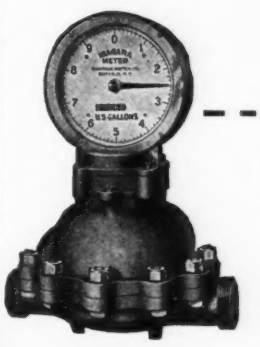

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Standard Oil Stocks on New York Curb

1928 High	1928 Low	1929 High	1929 Low	Outstanding Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions Week Ended July 20 Sales	First	High	Low	Last	Change
22⅜	14⅞	18¾	14¼	£4,126,460	£ 1	Anglo-American Oil	36c	June 5, 29	1,200	15⅛	15⅛	14⅝	14⅝	— ⅜
21¼	15	18	14¼	.....	....	do certificates	36c	June 5, 29	.....	.....	.....	.....	.....	.....
20½	14⅜	17	13	.....	L 1	do cts. non-voting	36c	June 5, 29	200	14	14	14	14	0
5	1¾	2⅜	1⅜	(sh) 500,000	N.P.	Atlantic Lobos	.....	.....	200	1⅝	1⅝	1¼	1¼	0
9¾	3¼	4⅛	1½	$10,000,000	$50	do pfd	.....	.....	.....	.....	.....	.....	.....	.....
56	44½	46½	35	$1,000,000	25	Borne-Scrymser	‡$1S.A.	Apr. 15, 29	50	35	35	35	35	0
76	58	74¼	58⅜	10.000,000	50	Buckeye Pipe Line	‡$1Q	June 15, 29	300	68¼	69⅛	68	69⅛	+ ⅛
161	117¼	193⅜	140⅛	3,000,000	25	Chesebrough Mfg	‡$1Q	June 30, 29	100	188	188	188	188	+ 8
23	16	29	17⅛	36,123,350	10	Continental Oil	.....	Dec. 15, 27	9,100	20¼	20¼	19	19⅜	— ⅛
17½	9½	11¾	7⅜	.....	N.P.	Creole Petroleum	.....	.....	1,400	8	8⅛	7⅞	8	— ⅛
82	67	75¾	62	1,500,000	50	Cumberland Pipe Line	$1Q	June 15, 29	50	69	69	69	69	0
88	64¼	70½	56	5,000,000	100	Eureka Pipe Line	$1Q	June 1, 29	400	59	59	†56	58	— 1
13	4¼	6⅝	5	16,000,000	100	Galena Signal Oil	.....	June 30, 25	.....	....	....	....	....	.....
86	26	90	73½	4,000,000	100	do new pfd	....	June 30, 26	.....	....	....	....	....	.....
89¾	35	88	73½	2,000,000	100	do old pfd	.....	June 30, 26	.....	.....	.....	.....	.....	.....
114¾	59¼	126⅞	89⅝	73,685,700	25	Humble Oil & Refining	‡30cQ	July 1, 29	22,400	125⅞	125⅞	121⅜	122⅛	— 2⅜
290½	176½	340½	285	20,000,000	100	Illinois Pipe Line	$10S.A.	June 15, 29	2,400	310	310	306	309½	+ ½
104	56¾	119⅜	88	(sh) 6,605,442	N.P.	Imperial of Canada	12½cQ	June 1, 29	.....	.....	.....	.....	.....	.....
....	....	....	....	.....	....	do new	.....	.....	730	29⅞	29⅞	29⅜	29½	— ⅛
91⅞	74⅝	106½	81¼	$5,000,000	$50	Indiana Pipe Line	‡$1Q	May 15, 29	2,900	104½	*106½	104¼	106½	+ 2
....	....	....	....	.....	....	do new	.....	.....	4,800	28¼	28⅜	28	28	0
55	35	65½	46⅛	(sh) 7,123,544	N.P.	International Petroleum	12½c	June 25, 29	.....	.....	.....	.....	.....	.....
....	....	....	....	.....	....	do new	.....	.....	74,800	25	26⅜	23¾	25⅞	+ ⅞
32⅜	19⅜	25⅞	21⅜	$6 363,350	12.50	National Transit Co	25cQ	June 15, 29	1,500	23	23	22⅜	22¾	— ⅛
75	38½	85	72	5,000,000	100	New York Transit	....	July 15, 26	.....	.....	.....	.....	.....	.....
....	....	....	....	.....	....	do new	.....	.....	1,000	15	15	15	15	0
69	56½	63	52	2,000,000	50	Northern Pipe Line	$2S.A.	July 1, 29	.....	.....	.....	.....	.....	.....
83½	58½	75⅜	64⅛	60,000,000	25	Ohio Oil Co	50cQ	June 15, 29	500	71¼	71¼	70½	70½	— 1
84	28	44½	23⅛	10,000,000	25	Penn Mex. Fuel	75c	Dec. 16, 28	800	38⅞	38⅞	32	32	— 7⅜
220	167	50	37¾	4,000,000	25	Solar Refining	$1.25S.A.	June 20, 29	100	37¾	37⅞	†37¾	37⅞	— 1⅛
19	12	22½	13	1,000,000	10	Southern Pipe Line	$1	Mar. 1, 29	200	20	20	19¼	19¼	— 1¾
71⅞	36¾	60¼	40⅜	30,000,000	25	South Penn Oil	50cQ	June 30, 29	3,800	53	53	50⅝	51⅞	— 1
102	70	70	62¾	1,750,000	50	South West Pa. Pipe Lines	$1	July 1, 29	150	64¼	66	64¼	64¼	— 1½
95⅞	70⅞	103¼	54	348,175,069	25	S. O. Indiana	62½cQ	June 15, 29	12,300	56⅜	56⅜	55	55⅝	— ⅜
27¾	15	21⅞	18	8,000,000	25	S. O. Kansas	....	June 16, 24	300	18⅛	20	18⅛	20	— ⅛
49	44	45¼	35⅛	25,654,516	10	S. O. Kentucky new	40cQ	June 30, 29	5,100	37½	37½	36⅞	37¼	— ⅛
54⅝	39⅞	50¼	45½	4,649,225	25	S. O. Nebraska	‡62½cQ	June 20, 29	100	47¼	47¼	47¼	47¼	+ ⅛
134	71	129	110¼	14,000,000	25	S. O. Ohio	62½cQ	July 1, 29	600	120	120	116	118¼	— 2⅜
125	116	124½	115	7,000,000	100	do pfd	$1.75Q	June 1, 29	170	117¼	117¾	117	117	— ½
23½	16	18	14	861,466	25	Swan Finch Co	30c	Jan. 15, 29	.....	.....	.....	.....	.....	.....
111	72	133¾	105½	126,154,000	25	Vacuum Oil	$1Q	June 20, 29	6,100	119⅝	122⅞	118½	120¼	+ ¾

*New High †New Low ‡Also Extras

Independent Oils on New York Curb

1928 High	1928 Low	1929 High	1929 Low	Par Value	Stocks	Transactions Week Ended July 20 Sales	First	High	Low	Last	Change
1½	.53	.72	.375	$ 5	Amer. Cons. Oilfields	9,500	½	½	3/8	7/16	0
9½	3⅛	8⅝	3½	N.P.	Amer. Maracaibo	14,000	3⅞	5	3⅞	4½	+ 5/8
4½	2¼	5	1⅞	$ 10	Argo Oil	300	2⅛	2⅛	2	2	— 1/8
3¾	3⅜	17⅞	3¾	N.P.	Arkansas Nat. Gas	283,100	13⅜	*17⅞	13	17¼	+ 4⅛
....	....	17⅜	6¾	N.P.	do A	191,100	13	*17⅜	12⅞	17¼	+ 4⅝
....	....	9	7⅞	10	do pfd	200	8¼	8⅜	8¼	8¼	— ⅛
55	32¾	62	50	N.P.	British American Oil	.....	.....	.....	.....	.....	.....
23⅞	3¾	4⅞	2⅝	25c	Carib Syndicate	3,100	3½	4¼	3½	3⅞	+ ⅜
....	....	47	27¾	N.P.	Cities Service new	464,800	40⅞	*47	40⅞	47	+ 6¼
103½	94½	98½	88⅜	100	do pfd	600	93¾	94	93¼	94	0
9⅝	8⅞	9¼	8⅞	10	do pref. B	200	9	9	9	9	0
97	88½	96	92	100	do pref. BB	.....	.....	.....	.....	.....	.....
2¼	1	1½	⅝	1	Colombia Syndicate	2,600	¾	⅞	¾	⅞	— ⅛
17⅜	9¾	15	6	N.P.	Colon Oil	3,100	7½	8½	7¼	8½	+ 1¼
8⅞	6¼	11⅜	4⅞	10	Consolidated Royal	4,200	5⅝	6⅜	†4⅞	6⅜	+ ¼
....	....	92½	45	N.P.	Cosden Oil Co	8,400	91⅜	*92½	82	88	+ ½
....	....	....	....	....	do new	100	75	75	75	75	+ 3½
3¼	.76	2¼	1⅛	N.P.	Crown Central	4,100	1½	1½	1¼	1¼	— ¼
15	6¾	11¾	8	N.P.	Crystal Oil	.....	.....	.....	.....	.....	.....
50	48	51⅛	51⅛	$100	do pfd	.....	.....	.....	.....	.....	.....
33½	8⅛	26	14	N.P.	Darby Petroleum	1,800	14½	15	15⅛	14⅛	— 1⅜
13½	7⅞	....	....	....	do trust ctfs	.....	.....	.....	.....	.....	.....
2⅞	1	10⅞	2	N.P.	Derby Oil & Refining	8,800	9¼	9⅝	8⅝	8¼	— ¼
21⅜	7½	44	20⅞	N.P.	do pfd	.....	.....	.....	.....	.....	.....
165	101⅜	202⅞	142⅜	$25	Gulf Oil Corp	22,400	194⅝	194⅝	190⅛	191⅝	— 3⅜
7½	5⅝	7½	3⅝	5	Homaokla Oil	3,800	3¾	4	3¾	4	+ ⅛
3⅜	1	2¼	1¼	10	Intercontinental Pet	8,800	1⅜	1¾	1¼	1¼	0
3	¼	3⅜	1½	N.P.	Kirby Petroleum	1,200	1¾	1¾	1⅜	1¾	— ¼
9⅜	5⅛	6⅛	2⅞	N.P.	Leonard Oil & Dev	26,000	4⅞	5⅝	4⅞	5¼	+ ⅜
43⅜	20	38⅞	24¾	N.P.	Lion Oil & Refg	6,800	34½	35⅞	34	35⅞	+ 2¾
69⅛	48⅜	87	67	$25	Lone Star Gas	1,800	85⅛	85⅛	85⅛	85⅛	+ ⅛
....	....	....	....	....	do new	8,900	34⅞	40	34⅞	39	+ 3¼
1⅞	.50	1¼	⅜	1	Magdalena Syndicate	3,400	1/16	1/16	3/8	7/16	+ 1/16
48½	32	38½	21¼	N.P.	Margay Oil	100	21⅜	21⅜	21⅜	21⅜	+ ¼
40½	40½	....	....	$10	Mexican-Panuco	.....	.....	.....	.....	.....	.....
8	2¾	6⅜	3⅜	N.P.	Mexico-Ohio Oil	.....	.....	.....	.....	.....	.....
.74	.20	....	....	$10	Mexico Oil	.....	.....	.....	.....	.....	.....
....	....	42	15⅞	N.P.	Missouri-Kan. P. L.	4,800	28⅞	31¾	28⅜	30⅝	+ 1⅝
1¾	.76	1½	⅞	1	Mountain & Gulf	2,000	⅞	⅞	⅞	⅞	0
28⅞	19½	22⅞	12	10	Mountain Producers	2,200	13¾	13¾	12⅛	12¾	— ½
....	....	36⅞	24¾	N.P.	Nat. Fuel Gas (new)	6,400	35⅜	*36⅞	34⅝	36¾	+ 2½
5⅝	4¼	5	3¼	5	New Bradford	500	3½	3¾	†3¼	3½	0
5½	3	3½	3	10	New England Fuel	.....	.....	.....	.....	.....	.....
11⅞	7⅛	9⅜	5½	1	New Mex. & Ariz	300	7	6⅜	6	6	— ½
15½	11½	24½	16	25	New York Petrol	500	16⅞	17¼	16⅞	17	+ ⅛
40	39⅛	....	....	....	North Amer. Oil Cons	.....	.....	.....	.....	.....	.....
13¼	8⅛	11⅝	8¾	N.P.	North Cent. Texas	1,700	11⅜	13	11¼	12¼	+ 1⅛
....	....	19¼	13	N.P.	Oil Stock, Ltd. A	1,000	14	15	13⅞	14¾	+ 1¾
....	....	18¼	14⅛	N.P.	do B	200	14⅛	14⅛	†14	14⅛	— ⅞
26¼	20	23¼	15½	N.P.	Pacific Western Oil	300	16¼	16¼	†15½	16	— ⅛
6	2¼	3½	1⅜	N.P.	Pandem	1,300	1½	1⅝	1⅜	1⅝	+ ⅛
15⅜	8½	10¼	6	N.P.	Pantapec	300	6⅜	6⅜	6⅛	6¼	— ⅛
20	10⅜	25½	22½	$25	Paragon Refg. B. ctfs	100	22⅞	22⅞	22⅜	22⅜	— ⅜
.09	.04	....	....	N.P.	Peer Oil Corp	.....	.....	.....	.....	.....	.....
7¾	4⅞	7⅜	4⅜	$10	Pennok Oil	.....	.....	.....	.....	.....	.....
....	....	34½	26½	N.P.	Petroleum Corp	100	28⅛	28¼	27¾	28	— ½
5⅜	3⅛	....	....	$ 5	Pittsburgh Oil & Gas	.....	.....	.....	.....	.....	.....
31⅜	26½	30	22	N.P.	Plymouth Oil	200	23	23½	23⅜	23½	— ⅛
18	8	16	11½	25	Red Bank Oil	100	11½	11½	11½	11½	0
13	4⅛	8¼	4½	N.P.	Reiter-Foster	500	5¾	5¾	5	5	— 5/8
31½	23¼	25½	23⅞	$25	Richfield pfd	100	24	24	24	24	— ¾
....	....	29	23	....	Root Refining pfd	200	24⅝	25	24½	25	— ⅛
12	4⅜	11	6¼	N.P.	Ryan Consolidated	200	6½	6½	6	6½	+ ⅛
7¼	5½	5⅞	2⅜	$10	Salt Creek Cons	400	3	3⅛	†2⅜	2⅜	+ ⅜
35	23¼	25⅞	14⅝	10	Salt Creek Prod	800	17	17	†14⅝	14⅝	— 1¾
3½	1	2½	1⅛	5	Savoy Oil	200	1⅛	1½	1⅛	1½	+ ⅜
40	27	33⅛	32	25	Shreveport El Dorado	.....	.....	.....	.....	.....	.....
....	....	24	16¾	N.P.	Southland Royalty	3,500	17	17	†16¾	17	— ⅞
....	....	23	12⅝	N.P.	Texon Oil & Land new	1,300	14⅛	15⅜	14	14⅝	+ ⅝
22⅞	13	16⅞	11⅜	$10	Tidal Osage	.....	.....	.....	.....	.....	.....
21¼	13⅜	16½	10⅜	10	do not-voting	.....	.....	.....	.....	.....	.....
93¾	75	145	80	100	Transcontinental pfd	200	144	144½	144	144	— 1
74¼	18	71⅛	66	10	Venezuela-Mexico	.....	.....	.....	.....	.....	.....
9⅜	4¾	6½	3½	5	Venezuelan Petrol	3,600	3⅝	3⅝	3½	3½	0
8¼	4⅞	9⅛	4⅝	1	Woodley Petroleum	400	4⅜	4⅜	4¼	4¼	— ⅛
⅝	⅜	5⅜	1⅝	25	Y Oil & Gas	400	1⅝	1⅝	1⅝	1⅝	0

*New High †New Low

New York Curb Bonds

Week Ending July 19, 1929

	High	Low	Last	Change
Beacon Oil 6s '36	123	118¼	123	+4½
Cities Serv. 5s '66	85½	84⅝	85	— ⅛
Cities Serv. G 5½s '42	87⅞	87	87¼	+ ⅛
Cities Serv. G. P. 6s '43	93	91	93	+ ⅜
Cont. Oil 5⅛s '37	94	93	93	—1
Empire O & R 5½s '42	87⅞	86⅞	87¼	+ ½
Gulf Oil 5s '37	99¾	98¾	99	+ ¼
Gulf Oil 5s '47	100	99¾	100	+ ¼
Indep. Oil 6s '39	109½	107⅝	108½	— ½
Richfield Oil 5½s '31	101½	100¼	100¼	— ½
Richfield Oil 6s '44	101¼	100	101¼	+ ⅜
Sun Oil 5½s '39	100	99¾	99¾	0
Valvoline Oil 7s '37	103½	103½	103½	—1¼

Oil Dividends

	Amount	Payable	Stock of Record
Cities Service m	2½c	Sept. 1	Aug. 15
do stock	½%	Sept. 1	Aug. 15
do pfd. m	50c	Sept. 1	Aug. 15
do pref. BB m	50c	Sept. 1	Aug. 15
do pref. B m	5c	Sept. 1	Aug. 15
Cosden Oil pfd. s.a.	$3.50	Aug. 1	July 15
Houston Oil pfd. s.a.	$3	Aug. 1	July 19
Mo.-Kans. Pipe Line stk.	*1/30 sh.	July 31	July 31
National Refg. q.	37½c	Aug. 15	Aug. 1
Royal Dutch final	$1.873	Aug. 13	July 30
Venezuela Pet. q.	5c	Aug. 15	July 31

*Company will pay cash for fractional shares at rate of $30 a share.

New York Bonds

Week Ending July 19, 1929

	High	Low	Last	Change
Assoc. Oil gold 6s	102¾	102¾	102¾	+1¾
Atlantic Refg. deb. 5s	101¾	100½	101¾	+1¼
Cal. Pet. 5s	96¾	96¼	96¾	+ ¾
Cal. Pet. 5½s	100½	99½	99½	—1
General Asphalt 6s	109	105½	108¾	+3⅞
General Pet. 5s	101½	100¼	101¼	+1
Humble Oil & Refg. 5s	100	100	100	— ⅛
Humble Oil & Refg. 5½s	100⅝	100¼	100⅝	+ ⅜
Pan Amer. P & T 7s	104½	104½	104½	0
Pan Amer. P & T 6s	110⅛	108	109½	+2
Pan Amer. P & T 6s	96	94	95½	+ ½
Phillips Pet. 5½s	89¼	88¼	89¼	0
Pure Oil 5½s	98½	97½	98	+ ½
Shell Union Oil 5s	96	95¼	96	+1¼
Simms Pet. 6s	100	99½	99½	+ ¼
Sinclair Con. Oil 7s	101¾	100¾	101¾	+1
Sinclair Con. Oil 6½s	99⅞	99	99⅞	+ ¼
Sinclair Con. Oil 6s D	99¼	98⅞	99⅛	— ⅛
Sinclair Con. Oil Crude 5½s	96¼	95½	96	0
Sinclair Pipeline	94	93½	93⅝	0
Skelly Oil 5½s	92⅜	92	92	0
S. O. N. Y. 4½s	95⅜	94½	95⅜	+ ⅜
S. O. N. J. 5½s	102	100½	101½	+ ⅝
Union Oil of Calif. 5s C	97½	97	97	— ½
White Eagle Oil 5½s	99½	99	99¼	0

How S. O. Indiana Stock Value Multiplied

CHICAGO, July 20.—Shares of the Standard Oil Co. of Indiana which could have been bought in 1911 for $3855 each now have a market value of approximately $53,000 for the present equivalent of each 1911 share and in the intervening 18 years the holder would have received $20,032.50 in cash dividends. The appreciation is 1275 per cent.

This appreciation of value was pointed out this week by the company in relating the growth of its transfer department.

The calculation takes into consideration a 2900 per cent stock dividend April 2, 1912; 150 per cent Dec. 18, 1920; 100 per cent Dec. 28, 1922, and 50 per cent Feb. 16, 1929.

"The 2900 per cent stock dividend of April 2, 1912, increased the number of shares outstanding to 300,000," the company stated. "On Aug. 31, 1912, the company paid its first dividend, amounting to $900,000 to approximately 4700 stockholders. Since then there has been a prodigious increase, as evidenced by 55,285 stockholders having participated in the cash and stock dividends declared to stockholders of record Feb. 16, 1929, the cash dividend amounting to $15,691,338.09. These figures are exclusive of stock distributed to participants in the second employes' stock purchasing plan."

The transfer department handled 13,209 stock certificates in April, 1929, and only 584 in April, 1917.

Cities Service Earnings at Peak

CLEVELAND, July 20. — Cities Service Co. has announced that its earnings in the 12 months ended June 30, 1929, were the largest in any 12-month period in the company's history. The net earnings available for stocks and reserves amounted to $31,439,277 as compared with $29,283,440 in the preceding 12 months. Earnings available for common stock and reserves amounted to $24,669,543 as compared with $22,487,255 the year before.

Financial Notes

Shell Union Oil Corp.—Stockholders at special meeting approved the $40,000,000 altering the capital structure to provide for an issue of $40,000,000 of 5½ per cent cumulative convertible preferred stock, par $100 a share. The stock recently was publicly offered at $98 a share.

Richfield Oil Co.—Bradford M. Melvin, a San Francisco lawyer, has been elected vice-president and general counsel.

THE OIL INDUSTRY EXCHANGE

Positions Wanted

DISTRIBUTOR SALESMAN would like to represent Pennsylvania refiner in Ohio-Michigan-Indiana. All products. Address Box 376.

EXPERIENCED GASOLINE TANK CAR SALESMAN, having wide acquaintance with jobbers, desires connection with reliable refiner, Michigan and Indiana territory preferred. Address Box 378.

MARKETING EXECUTIVE familiar with bulk plant operation will be interested in proposition after August 1st. Age 31, married and has family. Five years of valuable experience coupled with college education. Address Box 380.

LUBRICATION AND SALES ENGINEER—16 years experience marketing automotive petroleum products in the East. Available September. Familiar with recommendations of lubricants and adjusting complaints. Residence New York City. Address Room 1124, 342 Madison Ave., New York City.

SALES TRAINING MAN AVAILABLE
specializing in service station salesmen. Seven years successful experience in sales training in oil business.
Address "Sales"
c/o National Petroleum News,
35 E. Wacker Drive, Chicago, Ill.

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Patent and Trade-Mark Practice Exclusively
Continental Trust Building
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Situations Open

OIL SALESMEN
Experienced salesmen wanted by company selling highest grade Pennsylvania oil. New Jersey territory. Splendid opportunity for future sales managers. Members of our organization have been advised of this advertisement.
Address Box 381

CHEMISTS OR CHEMICAL ENGINEERS WANTED
Must be thoroughly experienced in one or more of the following:
Petroleum Asphalt Work
Petroleum Wax Plant
Petroleum Grease Manufacture
Petroleum By-Products Manufacture
In reply give detailed information regarding personal history, education and experience. Send kodak picture of yourself. Give references: state salary expected and date available. Applications will be held confidential.
Address Box 788 Wood River, Illinois

Situations Open

ASSISTANT SUPERINTENDENT WANTED
for a 10,000-barrel Mid-Continent refinery. A man with technical education preferred. Applicant must be thoroughly familiar with pipe stills, cracking stills and all up-to-date refinery equipment.
Give full particulars, age, nationality and education in first reply. Attach recent photo.
Address Box 369

SALES ENGINEER
Young man with operating experience in refining of light oils, to become Sales Engineer for large petroleum company.
Applicants should have had technical education, preferably in chemical engineering, and should be free to travel throughout the country. Write, inclosing picture and stating age, training, experience and salary desired.
Address Box 379.

For Sale

OIL JOBBING BUSINESS FOR SALE in good growing town in eastern Iowa. Priced reasonable. Good business established. Splendid opportunity for man with money to handle two stations. Address Box 375.

BULK PLANT FOR SALE. 56,000-gallon capacity, six tanks, two service stations, two Ford trucks, everything to conduct an oil business. Located Louisville, Ky. Price $16,500 cash. Address Box 377 care of National Petroleum News.

Miscellaneous

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"For Sale," "Wanted to Buy," "Help Wanted," "Business Opportunities."
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